DOCUMENT RESUME

ED 309 371 CG 021 837

AUTHOR	Johnston, Lloyd D.; And Others
TITLE	The Second Worldwide Survey of Drug and Alcohol Use among Students in the Department of Defense Dependents School System, 1982-1987.
INSTITUTION	Michigan Univ., Ann Arbor. Inst. for Social Research.
SPONS AGENCY	Dependents Schools (DOD), Washington, D.C.; National Inst. on Drug Abuse (DHHS/PHS), Rockville, Md.
PUB DATE	Dec 87
GRANT	NIDA-R01-DA01411
NOTE	111p.
PUB TYPE	Reports - Research/Technical (143) -- Statistical Data (110)
EDRS PRICE	MF01/PC05 Plus Postage.
DESCRIPTORS	Comparative Analysis; *Drug Abuse; *Drug Use; High School Seniors; Peer Influence; *Sociocultural Patterns; *Student Attitudes; *Student Behavior; Student Subcultures; *Substance Abuse; Trend Analysis
IDENTIFIERS	*Dependents Schools; Monitoring the Future

ABSTRACT

In the spring of 1987, a survey was conducted of 2,700 seniors in 37 overseas schools of the Department of Defense Dependents Schools (DoDDS) system, replicating an earlier 1982 survey. Both matched a parallel series of domestic national surveys in the ongoing Monitoring the Future study. This report presents the findings on the prevalence of drug use and related factors among both DoDDS and stateside seniors in 1987, and also compares trends between 1982 and 1987 for both populations. After an introductory overview of key findings, the study presents the survey outcomes with respect to the following: (1) prevalence of drug use over all and among important subgroups; (2) trends in drug use among high school seniors, both DoDDS and stateside; (3) drug use at earlier grade levels; (4) degree and duration of highs; (5) attitudes and beliefs about drugs, including perceived harmfulness and personal disapproval of drug use; and (6) the social milieu, including current perceptions of friends' attitudes, exposure to drug use by friends and others, implications for validity of self-reported usage questions, perceived availability of drugs, and perceived risks of apprehension and punishment for drug use. The survey includes estimates of sampling variance and trends in willingness to be honest about drug use. (TE)

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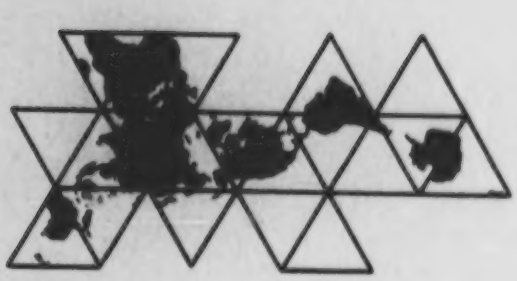

THE SECOND WORLDWIDE SURVEY OF DRUG AND ALCOHOL USE AMONG STUDENTS IN THE DEPARTMENT OF DEFENSE DEPENDENTS SCHOOL SYSTEM 1982-1987

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December, 1987

A report to the National Institute on Drug Abuse and the
Department of Defense Dependents Schools System
on NIDA Grant No. R01 DA01411

CONTENTS

Page

List of Tables v

List of Figures vii

Overview of Key Findings 1

Introduction 7

Content Covered in this Report 7
Purposes and Rationale for the Research 8
Research Design and Procedures 8
Representativeness and Validity 9
Validity of the Measures of Self-Reported 10

Prevalence of Drug Use 13

Prevalence of Drug Use in 1987: All Seniors 13
Lifetime, Annual, and Monthly Prevalence 13
Daily Prevalence 18
Noncontinuation Rates 19
Prevalence Comparisons for Important Subgroups 32
Sex Differences 32
Differences Related to College Plans 34
Regional Differences 36

Trends in Drug Use Among High School Seniors 39

Trends in Prevalence Between 1982 and 1987: DoDDS and Stateside Seniors 39
Regional Differences in Trends Among DoDDS Seniors: 1982-1987 48

Use at Earlier Grade Levels 55

Incidence of Use by Grade Level 55
Proportion of Eventual Users Initiating Prior to 10th Grade--Class of 1987 55
Trends in Use at Earlier Grade Levels 58

Degree and Duration of Highs 61

Attitudes and Beliefs about Drugs 69

Perceived Harmfulness of Drugs 69
Trends in Perceived Harmfulness 71
Personal Disapproval of Drug Use 73
Extent of Disapproval in 1987 73
Trends in Proportions Disapproving of Drug Use 74

The Social Milieu 79

Current Perceptions of Friends' Attitudes 79
Trends in Proportions of Friends Disapproving of Drug Use 81
Exposure to Drug Use by Friends and Others 81
Exposure to Drug Use 83
Trends in Exposure to Drug Use 86
Implications for Validity of Self-Reported Usage Questions 87
Perceived Availability of Drugs 87
Perceived Availability 87
Trends in Perceived Availability of Drugs 95
Perceived Risks of Apprehension and Punishment for Drug Use 97
Trends in Perceived Risks of Apprehension and Punishment for Drug Use 98

Appendix A: Estimates of Sampling Variance 101

Stateside Samples 101
DoDDS Samples 101

Appendix B: Self-Reported Willingness to Be Honest 103

LIST OF TABLES

Tables — Page

1. Prevalence (Percent Ever Used) of Sixteen Types of Drugs: Observed Estimates and 95% Confidence Limits, DoDDS and Stateside Class of 1987 15

2. Prevalence (Percent Ever Used) and Recency of Use of Sixteen Types of Drugs, DoDDS and Stateside Class of 1987 17

3. Lifetime Prevalence of Use of Sixteen Types of Drugs, by Subgroups, DoDDS and Stateside Class of 1987 24

4. Annual Prevalence of Use of Sixteen Types of Drugs, by Subgroups, DoDDS and Stateside Class of 1987 26

5. Thirty-Day Prevalence of Use of Sixteen Types of Drugs, by Subgroups, DoDDS and Stateside Class of 1987 28

6. Thirty-Day Prevalence of Daily Use of Sixteen Types of Drugs, by Subgroups, DoDDS and Stateside Class of 1987 30

7. Trends in Lifetime Prevalence of Use of Sixteen Types of Drugs DoDDS and Stateside, Classes of 1982 and 1987 44

8. Trends in Annual Prevalence of Use of Sixteen Types of Drugs DoDDS and Stateside, Classes of 1982 and 1987 45

9. Trends in Thirty-Day Prevalence of Use of Sixteen Types of Drugs DoDDS and Stateside, Classes of 1982 and 1987 46

10. Trends in Thirty-Day Prevalence of Daily Use of Sixteen Types of Drugs DoDDS and Stateside, Classes of 1982 and 1987 47

11. Trends in Lifetime Prevalence of Use of Sixteen Types of Drugs by Region DoDDS Classes of 1982 and 1987 50

12. Trends in Annual Prevalence of Use of Sixteen Types of Drugs by Region DoDDS Classes of 1982 and 1987 51

13. Trends in Thirty-Day Prevalence of Use of Sixteen Types of Drugs by Region DoDDS Classes of 1982 and 1987 52

14. Trends in Thirty-Day Prevalence of Daily Use of Sixteen Types of Drugs by Region DoDDS Classes of 1982 and 1987 53

15. Grade of First Use for Sixteen Types of Drugs, DoDDS Class of 1987 56

16. Grade of First Use for Sixteen Types of Drugs, Stateside Class of 1987 57

17. Trends in Use Prior to the Tenth Grade,
DoDDS and Stateside Classes of 1982 and 1987 59

18. Perceived Harmfulness of Drugs, DoDDS and Stateside Class of 1987 70

19. Trends in Perceived Harmfulness of Drugs,
DoDDS and Stateside Classes of 1982 and 1987 72

20. Proportions Disapproving of Drug Use, DoDDS and Stateside Class of 1987 75

21. Trends in Proportions Disapproving of Drug Use,
DoDDS and Stateside Classes of 1982 and 1987 77

22. Proportions of Friends Disapproving of Drug Use,
DoDDS and Stateside Class of 1987 80

23. Trends in Proportions of Friends Disapproving of Drug Use,
DoDDS and Stateside Classes of 1982 and 1987 82

24. Proportions of Friends Using Drugs, DoDDS and Stateside Class of 1987 84

25. Trends in Proportions of Friends Using Drugs,
DoDDS and Stateside Classes of 1982 and 1987 88

26. Exposure to Drug Use, DoDDS and Stateside Class of 1987 90

27. Trends in Exposure to Drug Use,
DoDDS and Stateside Classes of 1982 and 1987 92

28. Reported Availability of Drugs, DoDDS and Stateside Class of 1987 94

29. Trends in Reported Availability of Drugs,
DoDDS and Stateside Classes of 1982 and 1987 96

30. Trends in Perceived Risk of Apprehension and Consequences of Apprehension,
DoDDS Classes of 1982 and 1987 99

31. Trends in Willingness to be Honest in Reporting Drug Use Questions
DoDDS and Stateside Classes of 1982 and 1987 104

LIST OF FIGURES

Figures

Page

A. Lifetime and Annual Prevalence of an Illicit Drug Use Index, DoDDS and Stateside Class of 1987 14

B. Prevalence and Recency of Use of Eleven Types of Drugs, DoDDS Class of 1987 20

C. Prevalence and Recency of Use of Eleven Types of Drugs, Stateside Class of 1987 21

D. Thirty-Day Prevalence of Daily Use of Eleven Types of Drugs, DoDDS Class of 1987 22

E. Thirty-Day Prevalence of Daily Use of Eleven Types of Drugs, Stateside Class of 1987 23

F. Annual Prevalence of an Illicit Drug Use Index by Sex, DoDDS and Stateside Class of 1987 33

G. Annual Prevalence of an Illicit Drug Use Index by College Plans, DoDDS and Stateside Class of 1987 35

H. Annual Prevalence of an Illicit Drug Use Index by Region, DoDDS Class of 1987 37

I. Trends in Lifetime Prevalence of an Illicit Drug Use Index, DoDDS and Stateside Classes of 1982 and 1987 40

J. Trends in Annual Prevalence of an Illicit Drug Use Index, DoDDS and Stateside Classes of 1982 and 1987 41

K. Trends in Thirty-Day Prevalence of an Illicit Drug Use Index, DoDDS and Stateside Classes of 1982 and 1987 42

L. Degree of Highs Attained by Recent Users, DoDDS Class of 1987 62

M. Degree of Highs Attained by Recent Users, Stateside Class of 1987 63

N. Duration of Highs Attained by Recent Users, DoDDs Class of 1987 66

O. Duration of Highs Attained by Recent Users, Stateside Class of 1987 67

OVERVIEW OF KEY FINDINGS

In the spring of 1987, a survey was conducted of a representative sample of about 2,700 seniors in 37 overseas schools of the Department of Defense Dependents Schools (DoDDS) system. This survey was a replication of an earlier 1982 survey of about 2,400 seniors in 33 overseas DoDDS schools. Both surveys matched in content and method a parallel series of national surveys conducted stateside, as part of the ongoing Monitoring the Future study.[1] Field procedures in both series of surveys are virtually identical: both utilize confidential, self-administered questionnaires given in the classroom, and both are conducted by University of Michigan field personnel.

This report presents the findings on the prevalence of drug use and related factors among both DoDDS and stateside seniors in 1987, and also provides a comparison of trends between 1982 and 1987 for both populations. The key findings are as follows:

Comparisons of Drug Use in 1987: DoDDS versus Stateside

- The overall lifetime patterns of licit and illicit substance use by the overseas DoDDS student population are fairly similar to those of their stateside counterparts. Slightly lower proportions of DoDDS seniors report having ever tried **any illicit drug** compared to stateside seniors (53% DoDDS vs. 57% stateside) or **any illicit drug other than marijuana** (33% DoDDS vs. 36% stateside). The overall similarities bear testimony to the degree to which the dependents of American servicemen overseas carry the cultural habits of their society with them, since these drug usage rates very likely contrast sharply to those in the surrounding communities overseas.

- Despite the similarities in overall levels of illicit drug use, greater differences in usage levels are evident for the individual illicit drugs, with some being considerably higher stateside and at least one being considerable higher in DoDDS. The annual prevalence of the following illicit drugs was significantly lower in the DoDDS system than stateside in 1987: **marijuana** (28% DoDDS vs. 36% stateside); **hallucinogens** (3.0% vs. 6.4%); **LSD**, specifically (2.5% vs. 5.2%); **cocaine** (4.1% vs. 10.3%); **crack cocaine**, specifically (1.6% vs. 4.0%); and amphetamine **stimulants** (9.1% vs. 12.2%).

- Other drugs showed nearly identical lifetime and annual prevalence rates in the two populations--**sedatives** taken as a class (4.9% DoDDS vs. 4.1% stateside annual prevalence), the **nitrite inhalants** (2.7% vs. 2.6%),

---

1. Under the sponsorship of the National Institute of Drug Abuse, Monitoring the Future has been conducting annual survey of large, representative samples of seniors (over 15,000 per year) in public and private high schools throughout the coterminous United States since 1975. These surveys produce the primary statistical information used to estimate student drug use in the domestic population.

PCP (1.1% vs. 1.3%), **heroin** (0.6% vs. 0.5%), **other narcotics** (5.4% vs. 5.3%) and **tranquilizers** (5.7% vs. 5.5%).

- Only one class of illicit drugs is significantly more widespread in the DoDDS system--**inhalants**, which showed an annual prevalence in DoDDS of 9.7% vs. 6.9% stateside.

- The two licit drugs, **alcohol** and **cigarettes**, show higher usage rates in the DoDDS system, particularly at frequent levels of use. For example, daily drinking is reported by 8.0% of DoDDS seniors vs. 4.8% of stateside seniors. Daily smoking is reported by 23% in DoDDS vs. 19% stateside.

- In general, the differences observed in DoDDS between male and female students, and between the college-bound and noncollege-bound, closely parallel the differences found in the stateside population. Males tend to be heavier users than females of nearly all licit and illicit drugs (the primary exceptions occur for stimulants and cigarettes) and the noncollege-bound are heavier users in every case than the college-bound.[2]

Differences in Usage Rates among DoDDS Regions

- There are some fair-size regional differences in rates of illicit drug use among DoDDS seniors (see Figure H). The highest rate is in the Mediterranean region, where 38% say they have used **any illicit drug** in the past year, followed by Germany (36%), the Pacific (35%), and the Atlantic (30%). The Panama region is quite a bit lower than the other regions with only 24% having used any illicit drug; but Panama has by far the highest rate of cocaine use.

- There are also some important regional differences in the use of **alcohol** and **cigarette** use. **Daily drinking** tends to be highest in Germany and lowest in Panama, while **daily cigarette smoking** is highest in the Mediterranean region and also lowest in Panama. (See Tables 3 through 6.)

Trends in Use Between 1982 and 1987: DoDDS vs. Stateside

- *In general, there have been some important decreases in illicit drug use over the past five years in both the DoDDS and stateside populations, but the decreases have tended to be considerably larger in the DoDDS.* In 1982, the lifetime prevalence for the use of **any illicit drug** stood at 64% for both groups. By 1987, the DoDDS population showed a drop of 11% to 53% lifetime prevalence, while stateside there was a 7% drop to 57%. The differential drop was more impressive in terms of annual prevalence, where the DoDDS figure fell by 17% (from 51% to 34%) while the stateside figure fell by only 7% (from 49% to 42%). Put another way,

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2. The differences in drug use between the DoDDS and stateside seniors cannot be explained to any appreciable extent by any differential proportions planning to attend college (which we know is an important correlate of various types of drug use). (On the average, more of the DoDDS students plan to attend a four-year college (75%) than the students in civilian schools (67%).) An examination of the differences, controlling for college plans, shows them to be nearly as large. In fact, the DoDDS-stateside difference in smoking rates, and to a lesser degree drinking rates, would actually increase if college plans were controlled, because the college-bound tend to smoke and drink less.

annual prevalence fell by one-third in DoDDS and only by one-seventh stateside.

- Annual prevalence of the use of **any illicit other than marijuana** fell by nearly a third in the DoDDS system (by 8%--from 27% in 1982 to 19% in 1987), while it fell by only about one-fifth stateside (by 6%--from 30% to 24%).

- Most individual illicit drugs also showed a decline in use between 1982 and 1987. For many the proportional decline was considerably larger in the DoDDS system. Table 8 in the main body of the report provides a convenient synopsis of the changes, which are also summarized below.

- **Marijuana** use was very similar in the DoDDS and stateside systems in 1982 and, although marijuana use decreased significantly among both populations, the decrease in use was greater among the DoDDS seniors (with annual prevalence dropping by 18 percentage points) than among their stateside counterparts (with a drop of 8 percentage points from 44% to 36%). **Daily marijuana** use fell significantly in both populations and now stands at only 1.8% in DoDDS versus 3.3% stateside.

- Although the levels of **cocaine** use dropped some among stateside seniors between 1982 and 1987 (annual prevalence fell by 1.2%, from 11.5% to 10.3%), it fell even more among DoDDS seniors (by 2.9%, from 7.0% to 4.1%). Thus, cocaine use, which started out quite a bit lower in DoDDS, is now substantially lower than it is stateside.

- The use of **hallucinogens** (both adjusted and unadjusted for the underreporting of PCP) dropped significantly between 1982 and 1987, with the decreases again being appreciably greater among the DoDDS seniors. Use of the specific hallucinogen, **LSD**, decreased significantly (by more than half) among DoDDS seniors, but not among stateside seniors. Conversely, the use of **PCP** decreased among stateside seniors, but only decreases in the lifetime prevalence of use were noted among DoDDS seniors. As a result of the generally larger decreases among DoDDS seniors in LSD use between 1982 and 1987, annual use of hallucinogens (adjusted) is now only about half as prevalent among DoDDS (3.1%) as stateside seniors (6.7%).

- **Tranquilizer** use dropped somewhat more among DoDDS seniors between 1982 and 1987 (from 9.1% to 5.7% annual prevalence) than among stateside seniors, resulting in nearly equal levels of use of this drug reported by both populations in 1987.

- The use of **opiates other than heroin** also decreased more among DoDDS seniors between 1982 and 1987. Although lifetime and annual prevalence rates were at similar levels in 1987, monthly prevalence is still significantly higher among the DoDDS seniors than among stateside seniors (2.4% vs. 1.8% in 1987) as is daily prevalence (0.4% vs. 0.1%).

- The use of **stimulants** also decreased markedly in both populations between 1982 and 1987. In 1987, more stateside seniors reported using these drugs in the past year than DoDDS seniors (12% vs. 9%).

- The use of the general class of **sedatives**, and the subclasses--**barbiturates** and **methaqualone**--all fell substantially among both DoDDS and stateside classes between 1982 and 1987. DoDDS seniors exhibited a larger drop in barbiturate use, while stateside seniors showed a larger one in methaqualone use. The net result is that the annual prevalence rates for both groups are quite comparable in 1987, a fact which was not true in 1982.

- **Inhalant** use is the only type of drug use reported by more seniors in both populations 1987 than in 1982. While the increase was about the same in both, the usage levels have been consistently higher in DoDDS. Annual prevalence in 1987 is 9.7% in DoDDS versus 6.9% stateside. The subclass of inhalants consisting of the **amyl and butyl nitrites** (which are often sold legally in the United States), ran counter to this upward trend, with annual and past month prevalence rates down modestly between 1982 and 1987 in both populations.

- Annual and past month prevalence rates of **heroin** use remained very low and unchanged between 1982 and 1987 among both populations. There was a decline between 1982 and 1987, however, in the proportion of DoDDS seniors who had ever used heroin.

- The trends in illicit and licit drug use between 1982 and 1987 for both males and females, and for the college-bound and noncollege-bound groups, closely paralleled the overall changes in both the DoDDS and stateside populations. The trends in illicit drug use within the regions closely paralleled the overall changes for the DoDDS system as a whole between 1982 and 1987, except that illicit drug use did not drop quite as much in the Pacific region as it did in the other regions.

Attitudes and Beliefs about Drugs

- In general, equivalent proportions of the DoDDS students and stateside students perceive use of the various licit and illicit drugs as entailing "great risk" for the user. There are a few exceptions, however. Regular use of marijuana, LSD, and heroin, are perceived as more risky by DoDDS than stateside seniors, but fewer DoDDS seniors see taking four or five drinks once or twice each weekend as risky than do stateside seniors. (See Table 18 for details.)

- Between 1982 and 1987, there were large increases among both the DoDDs and stateside seniors in the proportions associating great risk of harm with the use of the various classes of illicit drugs--and in particular, with the use of marijuana and cocaine. As will be discussed below, we believe that these changed beliefs have played an important role in changing actual drug using behavior.

- While students in the DoDDS and stateside systems on the average express somewhat similar levels of disapproval of all types of drug use, fewer DoDDS seniors disapprove of experimentation with LSD, barbiturates, heroin and moderate daily drinking than do their stateside counterparts.

- In general, both groups exhibited large increase in their levels of disapproval of all of the illicit drugs, but in particular in relation to the use of marijuana and cocaine. (See Table 21 for details.) The changes in their personal attitudes were also mirrored in changes in the perceived attitudes of their friends, i.e., perceived peer norms. (See Table 23.)

- Although DoDDS seniors had been somewhat less likely to disapprove of drug use in 1982 than stateside seniors, the greater increases in disapproval among the DoDDS seniors brought their attitudes more into line with those of their stateside counterparts by 1987.

Perceived Availability of Drugs

- Regarding perceived availability, **most illicit drugs** appear to be less ready available to DoDDS students than to students in the domestic population. (See Table 29 for details.) The exception is that DoDDS seniors feel they can more easily obtain **opiates other than heroin. Heroin, barbiturates** and **tranquilizers** are seen as easily accessible by similar proportions of seniors in both systems. There were varied changes in the reported level of availability for the individual drugs between 1982 and 1987. The availability of most drugs either decreased modestly or remained unchanged. However, opiates other than heroin became significantly more available to DoDDS seniors, while cocaine became more available to stateside seniors.

Interpreting the Causes of Changes in Use

- It is clear that the appreciable declines in marijuana and cocaine use among the DoDDs seniors cannot be explained by changing levels of availability, since virtually no change in the availability of these two drugs took place. Because the declines in perceived availability were fairly modest for all the other drugs, it seems unlikely that changed availability accounted for much or any of the decline in their use either. This suggests, then, that there has been a change in demand, which could result from a change in underlying attitudes and beliefs about the various illicit drugs, or perhaps an increase in concern about apprehension and punishment.

- The data just summarized show that there have been some sizable changes in the dangers perceived to be associated with these drugs and in the extent to which young people disapprove of their use. As we have previously written, perceived risk appears to be an important determinant of usage levels in the stateside populations. Thus it would appear that changes in these attitudes and beliefs have likely played an important role in the downturn in use among seniors in DoDDS.

- We also asked the DoDDS students their perceptions about how vigorous the efforts of local authorities and military authorities are in trying to apprehend young people using drugs. (See Table 30 for details.) In general, there was no important shift seen in the level of efforts to apprehend youthful drug users by military authorities, and actually some decline seen in the efforts of local authorities. Therefore it appears that increased likelihood of apprehension would not explain the shift.

- On the other hand, additional questions about the severity of punishment likely to result from both sources, should a young person be apprehended while in possession of drugs, showed some shift toward increased severity of punishment at the hands of military authorities. But, there was also a shift toward less severe punishment at the hands of local authorities. Whether or not these shifts offset one another in terms of their influence on actual decision making cannot be determined; thus, it is possible that the increase in the perceived consequences of apprehension by military authorities has had some deterrent effect.

- There is one other possible explanation for the substantial improvement in the DoDDS drug use situation, and that is that it is artifactual--the result of increased concealment of drug use on the self-report questionnaire brought about by a greater concern among students about the official response to the survey results, for example. This hypothesis is explored and discussed in Appendix B to this report, and we conclude, based on various types of data available, that a convincing case cannot be made for it.

- Thus, it appears that the appreciable decline in **illicit drug use** by DoDDS students over the five-year interval reflects primarily a drop in demand for drugs, which in turn appears to be explainable in terms of changes in the prevailing attitudes and norms relating to illicit drug use. While a similar process is also occurring stateside, it appears to be occurring more rapidly in the DoDDS population.

- With regard to the two major licit drugs, **cigarettes** and **alcohol**, improvements have been far more modest, and DoDDS students continue to show an unusually high rate of consumption relative to their stateside counterparts.

INTRODUCTION

This report presents findings from the second worldwide survey of high school seniors attending Department of Defense Dependents Schools (DoDDS). It was conducted in the spring of 1987 in 37 schools in 10 countries.[1]

The survey of DoDDS seniors was carried out as part of an ongoing national research and reporting program conducted by the University of Michigan's Institute for Social Research. Since 1975, that program, entitled Monitoring the Future: An Ongoing Study of the Lifestyles and Values of Youth, has conducted annual surveys of nationally representative samples of high school seniors in the United States civilian population. Monitoring the Future was expanded in both 1982 and 1987 to include the DoDDS seniors, with funding for the supplement provided by the Department of Defense via an interagency transfer to the National Institute on Drug Abuse -- the primary sponsor of the parent project.[2]

CONTENT COVERED IN THIS REPORT

Among the topics which will be treated here are (1) the levels of drug use observed in 1987 among high school seniors in DoDDS, (2) comparisons of drug use between DoDDS seniors and seniors in the stateside schools in 1987, (3) the amount of change in drug use which has occurred between 1982 and 1987 among DoDDS seniors, and (4) comparisons of the changes observed in the DODDS schools with those observed among seniors in the stateside schools. Also reported are data on grade of first use; the senior's own attitudes and beliefs concerning various types of drug use; the perceived attitudes, beliefs and behaviors of others; and the perceived availability of various drugs.

Eleven separate classes of drugs are distinguished in this report: marijuana (including hashish), inhalants, hallucinogens, cocaine, heroin, natural and synthetic opiates other than heroin, stimulants (more specifically, amphetamines), sedatives, tranquilizers, alcohol, and cigarettes. (This particular organization of drug classes was chosen to heighten comparability with other publications based on the National Institute of Drug Abuse's national household surveys on drug abuse.) Separate statistics are also presented here for several subclasses of drugs: PCP and LSD (both hallucinogens), barbiturates and methaqualone (both sedatives), the amyl and butyl nitrites (a class of inhalants), and the new form of cocaine called "crack."

Except for the findings on alcohol and cigarettes, practically all of the information reported here deals with illicit drug use.[3] Respondents are asked to exclude any

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1. The first survey of drug use in the DoDDS system has been reported in: Johnston, L.D., O'Malley, P.M., & Davis-Sacks, M.L. (1983). A worldwide survey of seniors in the Department of Defense dependents schools: Drug use and related factors. A report to the National Institute on Drug Abuse on Grant No. R01DA01411. Ann Arbor: Institute for Social Research, The University of Michigan.

2. This work was supported by Research Grant No. R01DA01411 from the National Institute on Drug Abuse.

3. Actually, purchase and use of the butyl nitrites remain largely legal and unregulated in the United States at present.

occasions on which they used any of the psychotherapeutic drugs under medical supervision.

We have chosen to focus considerable attention on drug use at the higher frequency levels rather than simply reporting proportions who have ever used various drugs. This is done to help differentiate levels of seriousness, or extent, of drug involvement. While we may yet lack any public consensus of what levels of use constitute "abuse," there is surely a consensus that heavier levels of use are more likely to have detrimental effects for the user and society than are lighter levels. We have also introduced indirect measures of dosage per occasion by asking respondents the duration and intensity of the highs they usually experience with each type of drug.

PURPOSES AND RATIONALE FOR THIS RESEARCH

A major purpose of including seniors in DoDDS in the 1987 series is to provide accurate data on drug use and related factors among these seniors and, further, to compare the results with comparable data from seniors in stateside schools. In the absence of reliable prevalence data, substantial misconceptions can develop and resources can be misallocated. DoDDS implemented a system-wide drug education curriculum beginning with the 1987-88 school year; therefore, another purpose would be to establish a baseline measure of drug prevalence in order to help gauge the effectiveness of the new drug education curriculum. Another purpose is to provide comparisons on a variety of other dimensions between the DoDDS and stateside school system -- purposes which are not addressed in detail in this report. But perhaps the most central purpose is to assess the trends in drug use between 1982 and 1987 among DoDDS seniors, and to compare these trends with those observed nationwide among high school seniors.

RESEARCH DESIGN AND PROCEDURES

To maximize the comparability of results obtained from the survey of DoDDS seniors in 1987, the basic research design for this effort closely paralleled that used in the 1982 survey. Additionally, the study design followed the procedures used in the stateside study as closely as possible. The 1987 survey administration dates for individual schools were scheduled to coincide closely in time with the 1982 data collections in those same DoDDS schools. They also parallel the timing of the stateside data collections, which occur during the spring. Flyers explaining the study were mailed to each participating school and distributed to students about ten days before the administration in both the DoDDS and stateside surveys. The actual questionnaire administrations were conducted by trained Institute for Social Research (ISR) representatives, following standardized procedures detailed in a project instruction manual. These procedures were identical to those followed by ISR representatives who conduct the administrations in stateside schools. The questionnaires were administered in classrooms during normal class periods whenever possible; however, circumstances in some schools required the use of larger group administrations in both DoDDS and stateside schools.

Sampling procedures. All DoDDS high schools with more than 25 enrolled seniors were invited to participate, except in Germany.[4] In order to reduce costs for data collection, only half of all eligible schools in Germany were selected. A 50% sample of the schools in Germany was selected for inclusion in the study, using a stratified random procedure. Schools were stratified on the basis of the senior class size, the branch of the service hosting the installation to which the school was attached, and the size of the town in which the school was located. In all analyses, compensatory weighting is used in Germany to achieve a representative, cross-sectional sample of all seniors attending overseas DoDDS schools containing more that 25 seniors.

Questionnaire format. The questionnaire forms administered to the DoDDS seniors were identical to those administered to the domestic sample except that each form included a two-sided answer page at the end which contained questions uniquely appropriate to DoDDS students. Because many questions are needed to cover all of the topic areas in the study, much of the questionnaire content is divided into five different questionnaire forms (which are distributed to participants in an ordered sequence that insures five virtually identical subsamples). About one-third of each questionnaire form consists of key or "core" variables which are common to all forms. All demographic variables, and nearly all of the drug use variables included in this report, are included in this "core" set of measures. Many of the questions dealing with attitudes, beliefs, and perceptions of relevant features of the social milieu are contained in only a single form, however, and are thus based on one-fifth as many cases.

REPRESENTATIVENESS AND VALIDITY

School Participation. As previously mentioned, all DoDDS high schools with 25 or more seniors participated in the study, except in Germany where half of all schools meeting this criterion were selected for inclusion in the study. The number of schools participating in the 1987 survey of DoDDS seniors was 37: 13 in the Germany region, 9 in the Pacific region, 8 in the Atlantic region, 5 in the Mediterranean region, and 2 in Panama. Since all schools which met the criterion of having 25 or more seniors also met this criterion in 1982, 33 of the 37 schools had been included in the 1982 survey. Three of the additional four schools had no senior class enrollment in 1982 and were feeder schools for larger dormitory schools which were included in the 1982 survey; the other had a senior class enrollment that had grown to more than 25. Although students in the latter school were not included in the 1982 survey, their small number should make their inclusion in the 1987 survey have little effect on any cross-time trend comparison.

The 1987 stateside sample consisted of 135 public and private schools selected through a two-stage procedure to provide an accurate cross-section of all high school seniors throughout the coterminous United States. Of the stateside schools invited to participate in the 1987 survey, 72% agreed to do so. For each refusal, a similar school (in terms of size, geographic area, urbanicity, etc.) was recruited as a replacement.

Student Participation. Completed questionnaires were obtained from 2,770 DoDDS seniors, or 84% of the targeted students. This response rate is identical to

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4. Due to the remoteness of their location in terms of the distance from other eligible schools in the DoDDS system, Roger B. Chaffee High School in Bermuda, W. T. Sampson High School in Guantanamo Bay, and Ankara Elementary/High School in Turkey were omitted from the study on both occasions.

that obtained in the domestic survey which eliminates the possibility of any observed differences between the two samples being an artifact due to differential participation rates.[5] The single most important reason that students were missed in the DoDDS and stateside schools is absence from class at the time of data collection. Students with fairly high rates of absenteeism report above-average rates of drug use; therefore, there is some degree of bias introduced into the prevalence estimates as a result of missing the absentees. Much of that bias could be corrected through the use of special weighting; however, we decided not to do such weighting because the bias in overall drug use estimates was determined to be quite small, and because the necessary weighting procedures would have introduced undesirable complications. Of course, some students are not absent from class, but simply refuse when asked to complete a questionnaire. However, the proportion of explicit refusals amounts to less than 1 percent of the target sample in DoDDS or stateside schools.

The following table summarizes the sample participation for both stateside and DoDDS schools and students:

	1982		1987	
	Stateside	DoDDS	*Stateside*	DoDDS
Number of schools	137	33	135	37
Number of students	18,348	2,460	16,843	2,770

Sampling Accuracy of the Estimates. For purposes of this introduction, it is sufficient to note that drug use estimates based on the total sample of DoDDS seniors have confidence intervals that average about ±1.3% (as shown in Table 1, the confidence intervals vary from about ±2.4% to ±0.5% depending on the drug).[6] Confidence intervals for the drug use estimates based on the total sample of stateside seniors average about ±1.2%. This means that had we been able to invite all schools in the 48 states, the results would be within about one and a half percentage points of our present findings for most drugs at least 95 out of 100 times.

VALIDITY OF THE MEASURES OF SELF-REPORTED DRUG USE

A question which always arises in the study of sensitive behaviors like drug use is whether honest reporting can be secured. Like most studies dealing with sensitive behaviors, we have no direct, objective validation of the present measures; however, the considerable amount of inferential evidence that exists strongly suggests that the self-report questions produce largely valid data. A more complete discussion of the contributing evidence which leads to this conclusion

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5. These response rates are also virtually identical to the response rates in the 1982 surveys of DoDDS and stateside seniors; 84% and 83% respectively.

6. Confidence limits for the DoDDS sample are obtained by using formulas appropriate for simple random samples; see Appendix A for a discussion and rationale for this procedure.

may be found in other publications; here we will only briefly summarize the evidence.[7]

First, using a three wave panel design, we established that the various measures of self-reported drug use have a high degree of reliability--a necessary condition for validity.[8] In essence, this means that respondents were highly consistent in their self-reported behaviors over a three- to four-year time interval. Second, we found a high degree of consistency among logically related measures of use within the same questionnaire administration. Third, the proportion of seniors reporting some illicit drug use by senior year has reached two-thirds of all respondents in peak years and nearly as high as 80% in some follow-up years, which constitutes *prima facie* evidence that the degree of underreporting must be very limited. Fourth, the seniors' reports of use by their friends about which they would presumably have less reason to distort--has been highly consistent with self-reported use in terms of both prevalence and trends in prevalence, as will be discussed later in this report. Fifth, we have found self-reported drug use to relate in consistent and expected ways to a number of other attitudes, behaviors, beliefs, and social situations--in other words, there is strong evidence of "construct validity." Sixth, the missing data rates for the self-reported use questions are only very slightly higher than for the preceding non-sensitive questions, in spite of the instruction to respondents to leave blank those drug use questions they felt they could not answer honestly. And seventh, the great majority of respondents, when asked, say they would answer such questions honestly if they were users.

This is not to argue that self-reported measures of drug use are valid in all cases. In the present study we have gone to great lengths to create a situation and set of procedures in which students feel that their confidentiality will be protected. We have also tried to present a convincing case as to why such research is needed. We think the evidence suggests that a high level of validity has been obtained. Nevertheless, insofar as there exists any remaining reporting bias, we believe it to be in the direction of underreporting. Thus, we believe our estimates to be lower than their true values, even for the obtained samples, but not substantially so.

Consistency and the measurement of trends. One further point is worth noting in a discussion of the validity of the findings. The Monitoring the Future project is designed to be sensitive to changes from one time to another. Accordingly, the measures and procedures have been standardized and applied consistently across each data collection. To the extent that any biases remain because of limits in school and/or student participation, and to the extent that there are distortions (lack of validity) in the responses of some students, it seems very likely that such problems will exist in much the same way from one survey to the next. In other words, biases in the survey estimates will tend to be consistent from one survey to another, which means that our measurement of **trends** should be affected very little by any such biases. The smooth and consistent nature of most trend curves reported for the various drugs provides rather compelling empirical support for this assertion.

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7. Johnston, L.D., & O'Malley, P.M. (1985). Issues of validity and population coverage in student surveys of drug use. In B.A. Rouse, N.J. Kozel, & L.G. Richards (Eds.), *Self-report methods of estimating drug use: Meeting current challenges to validity* (NIDA Research Monograph No. 57; (ADM) 85-1402). Washington, D.C.: U.S. Government Printing Office; Johnston, L.D., O'Malley, P.M., & Bachman, J.G. (1984). *Drugs and American high school students: 1975-1983* (NIDA (ADM) 80-976). Washington, D.C.: U.S. Government Printing Office.

8. O'Malley, P.M., Bachman, J.G., & Johnston, L.D. (1983). Reliability and consistency in self-reports of drug use. *International Journal of the Addictions*, 18, 805-824.

PREVALENCE OF DRUG USE

This section summarizes the levels of drug use reported by the DoDDS class of 1987. Data are included for lifetime use, use during the past year, use during the past month, and daily use. Levels of drug use reported by seniors in DoDDS are compared to those reported by seniors in stateside schools. Also included are comparisons between key subgroups of DoDDS seniors (based on sex, college plans, DoDDS region) and comparisons between these subgroups and comparable subgroups of stateside seniors.

PREVALENCE OF DRUG USE IN 1987: ALL SENIORS

Lifetime, Annual and Monthly Prevalence

- Over one-half of DoDDS seniors (53%) report **illicit drug use** at some time in their lives although a substantial proportion of them report using **only marijuana** (20% of the sample or 39% of illicit drug users). A slightly larger proportion of stateside seniors report such use (with 57% reporting any illicit drug use and 21% reporting using only marijuana). (See Figure A.)

- About one-third (33%) of DoDDS seniors report using an **illicit drug other than marijuana** at some time compared to 36% stateside.[1]

- Table 1 provides the 95% confidence interval around the lifetime prevalence estimates for each drug among DoDDS and stateside seniors, and Table 2 compares DoDDS and stateside seniors' use of the various classes of drugs in their lifetime, and in more recent time frames. Figure B gives a ranking of various drug classes on the basis of their lifetime prevalence figures for DoDDS and stateside seniors.

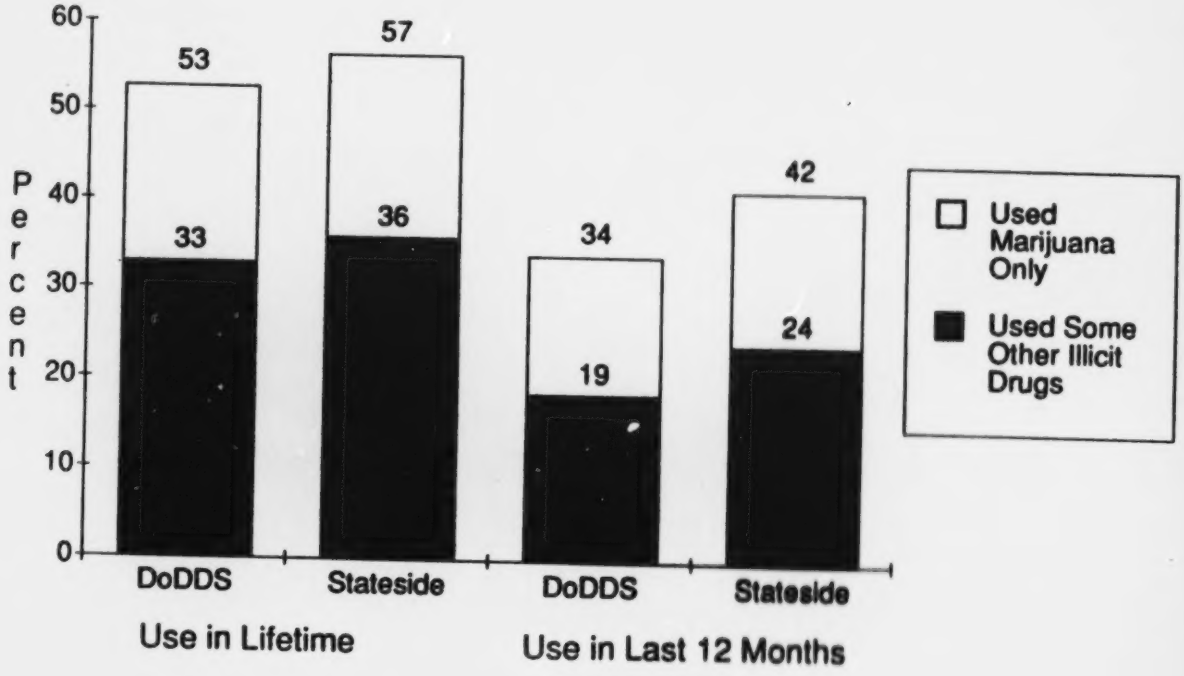
- **Marijuana** is by far the most widely used illicit drug with 44% of DoDDS seniors reporting some use in their lifetime, 28% reporting some use in the past year and 14% reporting use in the last month. The stateside prevalence figures for this drug are significantly higher (50%, 36%, and 21% respectively).

- After marijuana, the most widely used class of other illicit drugs among DoDDS seniors is inhalants (adjusted as explained in the next paragraph), with a 26% lifetime prevalence (compared to 19% stateside). **Tranquilizers** follow at 12% (vs. 11% stateside), and **opiates other than heroin** and **sedatives** each at 10% (vs. 9% stateside). These are followed

1. Use of "other illicit drugs" includes the use of hallucinogens, cocaine, or heroin or the use of other opiates, stimulants, sedatives, or tranquilizers which is not under a doctor's orders.

FIGURE A

Lifetime and Annual Prevalence of an Illicit Drug Use Index, DoDDS and Stateside Class of 1987



NOTES: Use of "some other illicit drugs" includes any use of hallucinogens, cocaine, and heroin, or any use which is not under a doctor's orders of other opiates, stimulants, sedatives, or tranquilizers.

Table 1
Prevalence (Percent Ever Used) of Sixteen Types of Drugs:
Observed Estimates and 95% Confidence Limits
DoDDS and Stateside Class of 1987
Approx. N *Stateside=16300*
Approx. N DoDDS=2700

	DoDDS Sample			*Stateside Sample*			DoDDS-*Stateside* Difference
	Lower limit	Observed estimate	Upper limit	*Lower limit*	*Observed limit*	*Upper limit*	
Marijuana/Hashish	41.8	43.7	45.6	48.1	50.2	52.3	−6.5sss
Inhalants[1]	23.0	24.8	26.7	15.9	17.0	18.2	+7.8sss
Inhalants Adjusted[2]	23.8	26.1	28.6	17.3	18.6	20.0	+7.5sss
Amyl/Butyl Nitrites[3]	3.8	5.4	7.6	3.8	4.7	5.8	+0.7
Hallucinogens	6.8	7.7	8.8	9.2	10.3	11.5	−2.6ss
Hallucinogens Adjusted[4]	6.5	7.8	9.3	9.6	10.6	11.6	−2.8ss
LSD	5.7	6.6	7.6	7.4	8.4	9.5	−1.8s
PCP[3]	1.3	2.3	3.9	2.3	3.0	4.0	−0.7
Cocaine	8.1	9.1	10.2	13.9	15.2	16.6	−6.1sss
"Crack"[6]	2.5	3.4	4.7	5.0	5.6	6.3	−2.2ss
Heroin	1.1	1.5	2.0	0.9	1.2	1.5	+0.3
Other opiates[5]	9.2	10.3	11.5	8.5	9.2	10.0	+1.1
Stimulants Adjusted[5]	17.7	19.1	20.6	20.1	21.6	23.1	−2.5s
Sedatives[5]	9.0	10.1	11.3	7.7	8.7	9.8	+1.4
Barbiturates[5]	7.9	8.9	10.0	6.5	7.4	8.4	+1.5s
Methaqualone[5]	4.1	4.8	5.7	3.3	4.0	4.8	+0.8
Tranquilizers[5]	10.5	11.7	13.0	9.8	10.9	12.1	+0.8
Alcohol	94.4	95.3	96.0	90.7	92.2	93.5	+3.1sss
Cigarettes	67.9	69.7	71.4	65.5	67.2	68.9	+2.5s

NOTE: Significance of difference between the two samples: *s*=.05, *ss*=.01, *sss*=.001.
[1]Data based on four questionnaire forms. N is four-fifths of N indicated.
[2]Adjusted for underreporting of amyl and butyl nitrites (see text).
[3]Data based on a single questionnaire form. N is one-fifth of N indicated.
[4]Adjusted for underreporting of PCP (see text).
[5]Only drug use which was not under a doctor's orders is included here.
[6]Data based on two questionnaire forms. N is two-fifths of N indicated.

by **cocaine** at 9% (vs. 15% stateside), **hallucinogens** (adjusted)[2] at 8% (vs. 11% stateside), and **heroin** at 1.5% (vs. 1.2% stateside). The rank order of illicit drug classes among stateside seniors is somewhat different, with stimulants, cocaine and hallucinogens ranking higher and inhalants, sedatives and tranquilizers ranking lower than among the DoDDS seniors.

- The inhalant estimates have been adjusted upward because we observed that not all users of one sub-class of inhalants--**amyl and butyl nitrites** (described below)--report themselves as inhalant users. Because we included questions specifically about nitrite use for the first time in one 1979 questionnaire form, we were able to discover this problem and make estimates of the degree to which inhalant use was being underreported in the overall estimates. As a result, all prevalence estimates for **inhalants** have been increased. Tables 3 through 6--which display lifetime, annual, past month and daily use of the various drugs--show that DoDDS seniors have significantly higher lifetime and annual prevalence rates of inhalant use, but their rates of daily and past month use are much closer to that of stateside seniors.

- The specific class of inhalants known as **amyl and butyl nitrites**, are sold legally in the United States and go by the street names of "poppers" or "snappers," and such brand names as Locker Room and Rush. They have been used by 5.4% of the DoDDS seniors, as compared to 4.7% of the stateside seniors, a non-significant difference. Nearly identical proportions of DoDDS and stateside seniors report use of the amyl and butyl nitrites in the past year and last 30 days.

- **Stimulants** are used by significantly smaller proportions of DoDDS seniors, compared to stateside seniors (lifetime, annual, and monthly prevalence).

- There are no significant differences in the proportions of DoDDS and stateside seniors reporting use of **tranquilizers** (medical use excluded).

- Although there is no significant difference in lifetime and annual use of **opiates other than heroin** (methadone, opium, codeine, morphine, paregoric) among DoDDS and stateside seniors, slightly more DoDDS seniors have used opiates in the past month.

- The overall use of **sedatives** does not differ significantly between DoDDS seniors and stateside seniors. However, DoDDS seniors do report slightly higher lifetime use of drugs in the subclass of **barbiturates** (9%) than do stateside seniors (lifetime prevalence, 7%). There is no significant difference observed in the use of **methaqualone** by DoDDS seniors in comparison to stateside seniors (5% versus 4%).

- Stateside seniors in 1987 are significantly more likely to have used **cocaine** in their lifetime, the past year, and the past thirty days than

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2. We discovered in 1979, by adding to one form questions specifically about PCP use, that some users of the hallucinogenic drug PCP do not report themselves as users of hallucinogens--even though PCP is explicitly included as an example in the questions about hallucinogens. Thus, the hallucinogen prevalence and trend estimates have been adjusted upward to correct for this known underreporting.

Table 2
Prevalence (Percent Ever Used) and Recency of Use of Sixteen Types of Drugs, DoDDS and Stateside Class of 1987
Approx. N *Stateside=16300*
Approx. N DoDDS=2700

	Ever Used		Past Month		Past Year, Not Past Month		Not Past Year		Never Used	
	State-side	DoDDS	*State-side*	DoDDS	*State-side*	DoDDS	*State-side*	DoDDS	*State-side*	DoDDS
Marijuana/Hashish	50.2	43.7	21.0	13.9	15.3	14.2	13.9	15.6	49.8	56.3
Inhalants[1]	17.0	24.8	2.8	3.6	4.1	6.1	10.1	15.1	83.0	75.2
Inhalants Adjusted[2]	18.6	26.1	3.5	3.8	4.6	6.5	10.5	15.8	81.4	73.9
Amyl/Butyl Nitrites[3]	4.7	5.4	1.3	1.1	1.3	1.6	2.1	2.7	95.3	94.6
Hallucinogens	10.3	7.7	2.5	1.1	3.9	1.9	3.9	4.7	89.7	92.3
Hallucinogens Adjusted[4]	10.6	7.8	2.8	1.3	3.9	1.8	3.9	4.7	89.4	92.2
LSD	8.4	6.6	1.8	0.7	3.4	1.8	3.2	4.1	91.6	93.4
PCP[3]	3.0	2.3	0.6	0.1	0.7	1.0	1.7	1.2	97.0	97.7
Cocaine	15.2	9.1	4.3	1.3	6.0	2.8	4.9	5.0	84.8	90.9
"Crack"[7]	5.6	3.4	1.5	0.3	2.5	1.3	1.6	1.8	94.4	96.6
Heroin	1.2	1.5	0.2	0.2	0.3	0.4	0.7	0.9	98.8	98.5
Other opiates[5]	9.2	10.3	1.8	2.4	3.5	3.0	3.9	4.9	90.8	89.7
Stimulants Adjusted[5]	21.6	19.1	5.2	4.0	7.0	5.1	9.4	10.0	78.4	80.9
Sedatives[5]	8.7	10.1	1.7	2.1	2.4	2.8	4.6	5.2	91.3	89.9
Barbiturates[5]	7.4	8.9	1.4	1.8	2.2	2.5	3.8	4.6	92.6	91.1
Methaqualone[5]	4.0	4.8	0.6	0.7	0.9	1.1	2.5	3.0	96.0	95.2
Tranquilizers[5]	10.9	11.7	2.0	2.0	3.5	3.7	5.4	6.0	89.1	88.3
Alcohol	92.2	95.3	66.4	74.5	19.3	15.9	6.5	4.9	7.8	4.7
Cigarettes	67.2	69.7	29.4	33.8	34.4[6]	35.9[6]			32.8	30.3

[1]Data based on four questionnaire forms. N is four-fifths of N indicated.
[2]Adjusted for underreporting of amyl and butyl nitrites (see text).
[3]Data based on a single questionnaire form. N is one-fifth of N indicated.
[4]Adjusted for underreporting of PCP (see text).
[5]Only drug use which was not under a doctor's orders is included here.
[6]The combined total for the two columns ("past year", "not past year") is shown because the question asked did not discriminate between the two answer categories.
[7]Data based on two questionnaire forms. N is two-fifths of N indicated.

DoDDS seniors; for example, 10% of the stateside and 4% of the DoDDS seniors have used cocaine in the past year. This also holds true for use of the specific form of cocaine--crack. Four percent of the stateside seniors report using "crack" in the past year, in comparison to only 1.6% of the DoDDS seniors.

- Prevalence rates for the specific hallucinogen **PCP** do not differ significantly between DoDDS and stateside seniors. Prevalence rates for **LSD** and for the general class of hallucinogens, which includes **LSD** and **psychedelics other than LSD**, are significantly higher among stateside seniors than among DoDDS seniors. For example, lifetime, annual, and monthly prevalences of LSD are 8.4%, 5.2%, and 1.8% for stateside seniors compared to 6.6%, 2.5%, and 0.7% for DoDDS seniors.

- Estimates of **heroin** use are very similar for DoDDS (1.5% lifetime prevalence) and stateside seniors (1.2%). Given the highly illicit nature of this drug we deem it to be the most likely to be underreported.

- Use of either of the two major licit drugs, alcohol and cigarettes, remains more widespread than use of any of the illicit drugs. Nearly all DoDDS seniors have tried **alcohol** (95%) and the great majority (75%) have used it in the past month. While the estimates of alcohol use among stateside seniors are also high (lifetime use, 92% and monthly use, 66%), those for DoDDS seniors are significantly higher.

- Some 70% of DoDDS seniors report having tried **cigarettes** at some time and 34% smoked at least some in the past month. Again, these figures are significantly higher than among stateside seniors; 67% of whom have tried cigarettes and 29% of whom have smoked in the last month.

Daily Prevalence

- Frequent use of these drugs is of greatest concern from a health and safety standpoint. Table 6 and Figures D and E show the prevalence of daily or near daily use of the various classes of drugs. For all drugs, except cigarettes, respondents are considered daily users if they indicate that they had used the drug on twenty or more occasions in the preceding 30 days. For cigarettes, respondents are considered daily users if they explicitly state use of one or more cigarettes per day.

- **Cigarettes** are used daily by more DoDDS respondents (23%) than any of the other drug classes. In fact, 15% say they smoke half-a-pack or more per day. These rates are significantly higher than the rates among stateside seniors, where 19% are using on a daily basis, and 11% are smoking half-a-pack or more per day.

- **Alcohol** also is used daily by significantly more of the DoDDS seniors (8%) than stateside seniors (5%). Similar, and very substantial, proportions of DoDDS seniors (38%) and stateside seniors (37%), report that on at least one occasion during the prior two-week interval they had five or more drinks in a row.

- Only about half as many DoDDS seniors use **marijuana** on a daily or near daily basis (1.8%) in comparison to stateside seniors (3.3%).

- Very few DoDDS seniors report using any of the illicit drugs other than marijuana on a daily or near-daily basis. Less than 0.5% report using **inhalants** or **opiates other than heroin** that frequently (0.4% in both cases); 0.2% report using **cocaine** or **stimulants** that frequently, and 0.1% or fewer report using any of the other illicit drugs that frequently.

- The only illicit drug class other than marijuana that shows a significant difference from stateside seniors in daily use is the **opiates other than heroin**, where only 0.1% of stateside seniors report daily use versus 0.4% of DoDDS seniors.

NONCONTINUATION RATES

An indication of the extent to which people who try a drug do not continue to use it can be derived from calculating the percentage, based on those who ever used a drug (once or more), who did not use it the 12 months preceding the survey.[3] Among DoDDS seniors, several of the drug classes have noncontinuation rates of approximately 60%; that is 60% of previous users had not used in the past twelve months.

- The drug with the highest noncontinuation rate among DoDDS seniors is **methaqualone** (63%). The general drug class of **sedatives** has a noncontinuation rate of 51%, which is very similar to the noncontinuation rate for stateside seniors.

- The noncontinuation rates for the hallucinogen **LSD** is 62% among DoDDS seniors, and the class of **hallucinogens** has noncontinuation rates of 61% and 60% respectively, for unadjusted and adjusted versions. The stateside seniors have much lower noncontinuation rates for the hallucinogens--38% for the general class of hallucinogens and for LSD specifically, with a 37% noncontinuation rate for the hallucinogens adjusted for underreporting of PCP use.

- The **inhalants** have comparable noncontinuation rates among both DoDDS and stateside seniors. Among DoDDS seniors, the noncontinuation rate for the inhalants, both adjusted and unadjusted, is 61%. The **nitrites** specifically, however, are used at somewhat older ages as illustrated by the noncontinuation rate of 50% among DoDDS seniors (in comparison to 45% stateside).

- **Marijuana** has the lowest noncontinuation rate in senior year of any of the illicit drugs (36% in DoDDS in comparison with 28% of stateside seniors).

- **Cocaine** also has a much higher noncontinuation rate among DoDDS seniors (55%), than among stateside seniors (32%).

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3. This operationalization of noncontinuation has an inherent problem in that users of a given drug who initiate use in senior year by definition, cannot be noncontinuers. Thus, the definition tends to understate the noncontinuation rate, particularly for drugs that tend to be initiated late in high school rather than in earlier years.

FIGURE B

Prevalence and Recency of Use of Eleven Types of Drugs, DoDDS Class of 1987

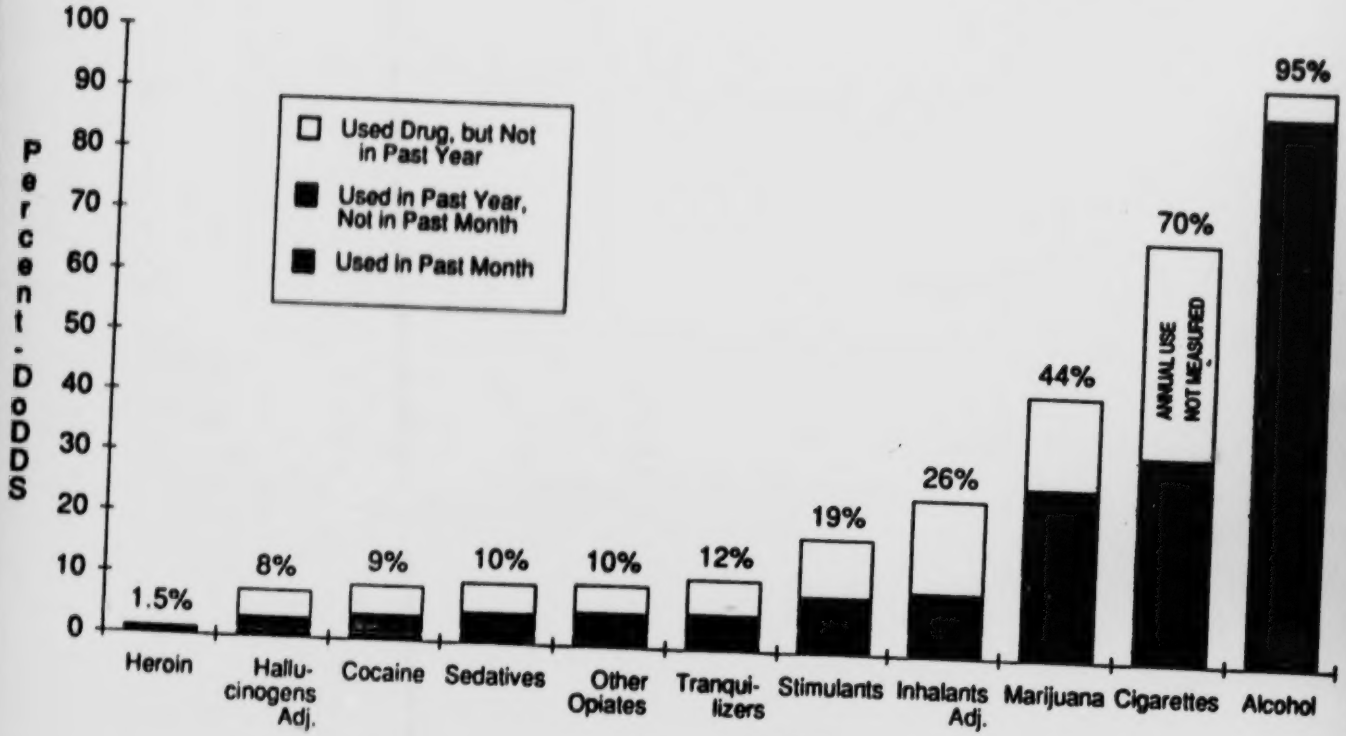

FIGURE C

Prevalence and Recency of Use of Eleven Types of Drugs, Stateside Class of 1987

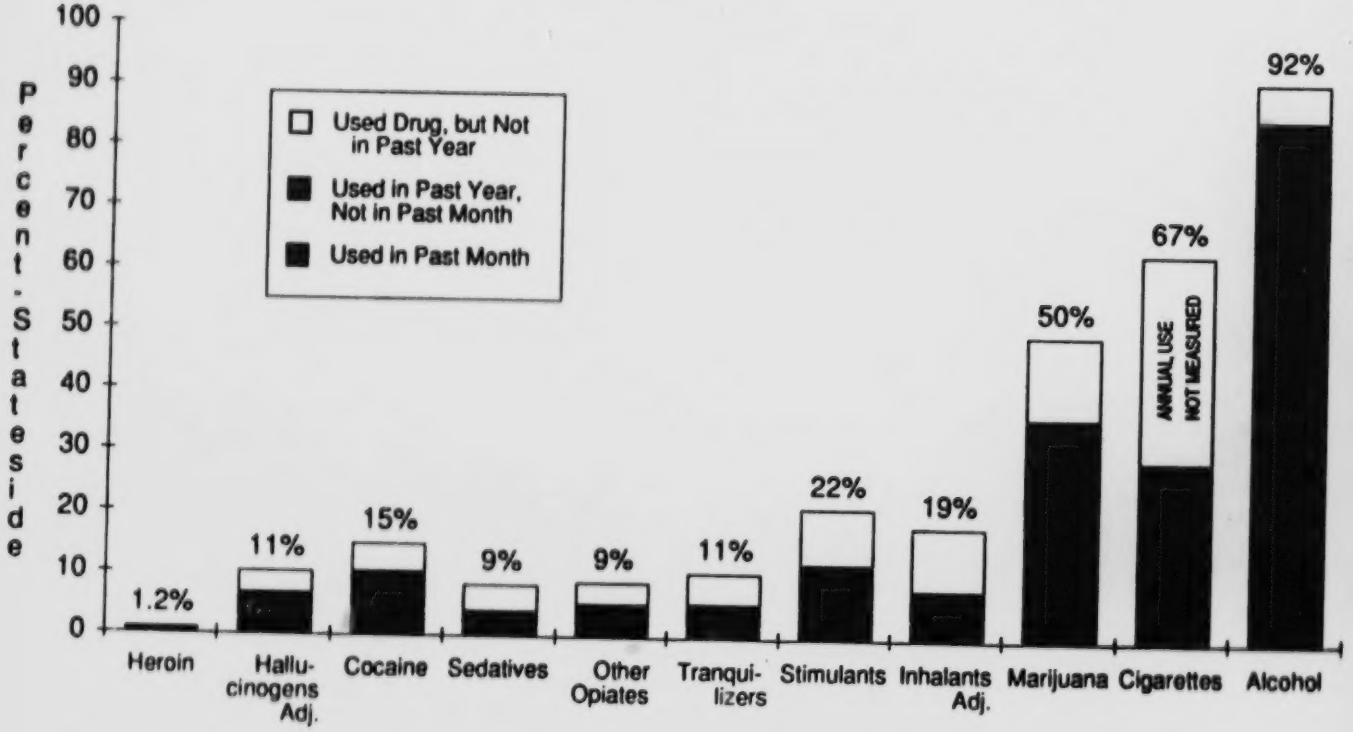

FIGURE D

Thirty-Day Prevalence of Daily Use of Eleven Types of Drugs, DoDDS Class of 1987

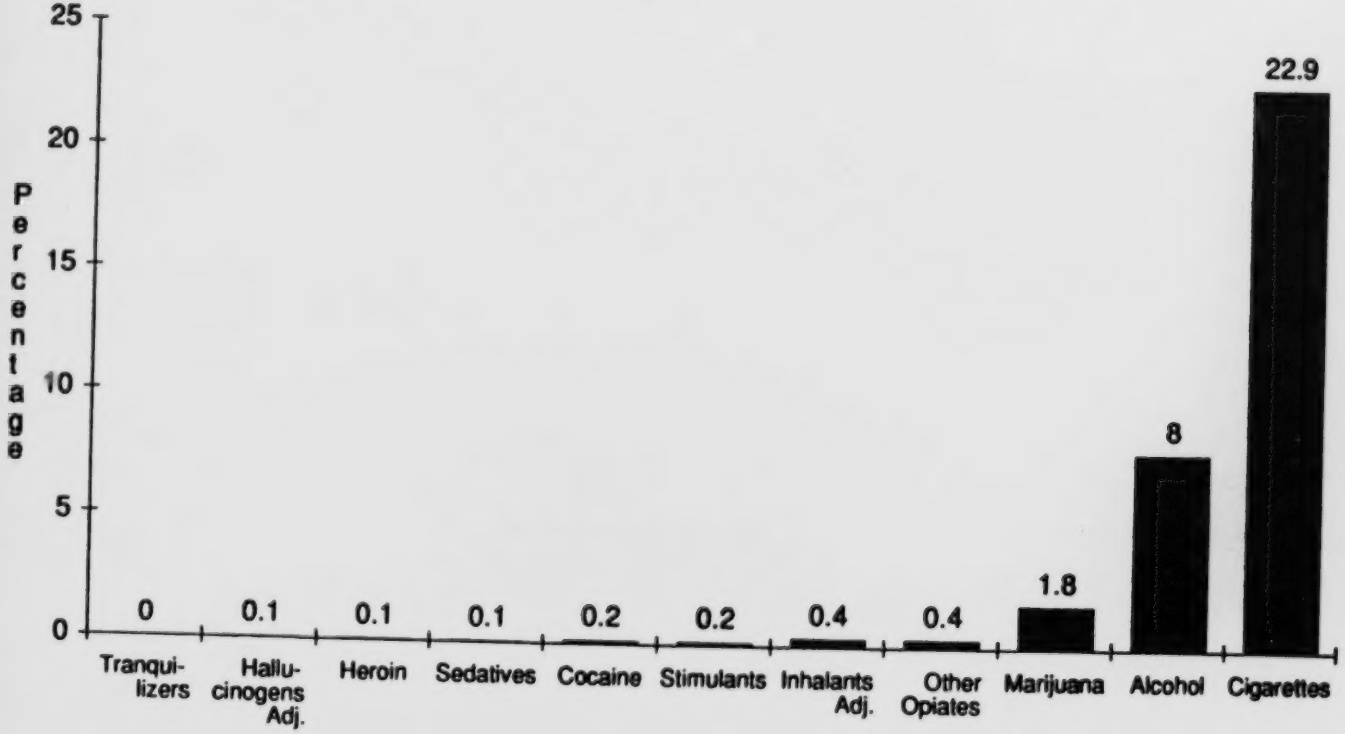

FIGURE E

Thirty-Day Prevalence of Daily Use of Eleven Types of Drugs, Stateside Class of 1987

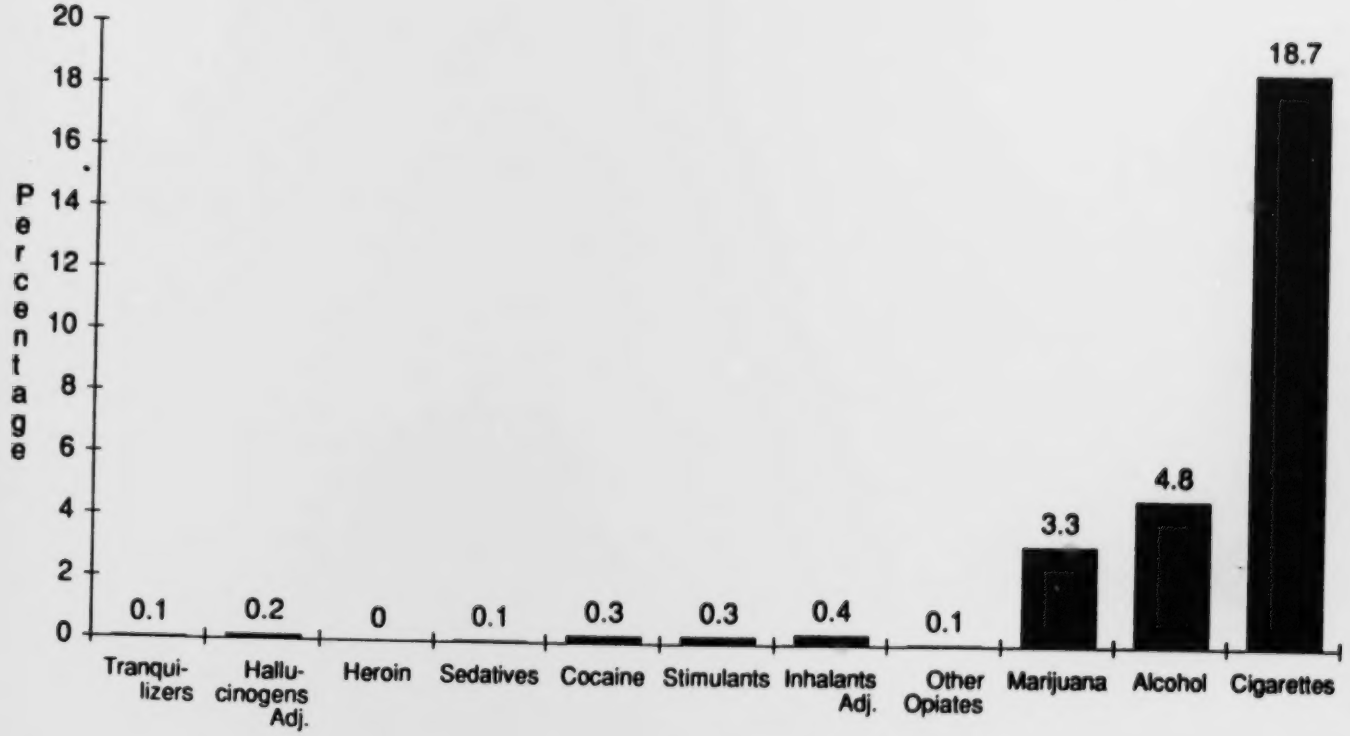

Table 3
Lifetime Prevalence of Use of Sixteen Types of Drugs, by Subgroups, DoDDS and Stateside, Class of 1987

Percent ever used

	Total			DoDDS Region				
Approx. N =	*Stateside* (16300)	DoDDS (2700)	DoDDS-*Stateside* Diff.	Atlantic (490)	Germany (1100)	Mediterranean (250)	Pacific (590)	Panama (260)
Marijuana/Hashish	50.2	43.7	−6.5sss	41.6	45.0	45.8	44.6	32.8
Inhalants[1]	17.0	24.8	+7.8sss	23.2	27.4	19.1	24.9	11.0
Inhalants Adjusted[2]	18.6	26.1	+7.5sss	24.8	28.7	21.0	26.3	11.0
Amyl/Butyl Nitrites[3]	4.7	5.4	+0.7	5.4	5.2	3.8	7.6	4.2
Hallucinogens	10.3	7.7	−2.6ss	6.5	8.6	7.3	7.8	2.3
Hallucinogens Adjusted[4]	10.6	7.8	−2.8ss	7.4	8.6	7.3	7.8	2.3
LSD	8.4	6.6	−1.8s	5.7	7.5	6.9	6.1	1.2
PCP[3]	3.0	2.3	−0.7	2.2	2.4	1.9	3.4	0.0
Cocaine	15.2	9.1	−6.1sss	7.5	8.4	12.0	9.8	14.0
"Crack"[6]	5.6	3.4	−2.2ss	2.6	3.3	6.0	3.1	3.1
Heroin	1.2	1.5	+0.3	0.8	1.7	2.7	1.2	0.4
Other opiates[5]	9.2	10.3	+1.1	10.1	9.3	11.3	16.6	3.9
Stimulants Adjusted[5]	21.6	19.1	−2.5s	18.6	19.7	13.5	22.9	11.8
Sedatives[5]	8.7	10.1	+1.4	10.1	9.5	8.5	14.5	7.3
Barbiturates[5]	7.4	8.9	+1.5s	7.9	8.5	6.2	14.0	5.7
Methaqualone[5]	4.0	4.8	+0.8	5.6	4.8	4.3	6.0	1.9
Tranquilizers[5]	10.9	11.7	+0.8	13.8	10.5	12.7	13.1	13.0
Alcohol	92.2	95.3	+3.1sss	97.1	95.3	96.0	93.3	94.8
Cigarettes	67.2	69.7	+2.5s	69.0	69.6	75.1	70.2	64.5

NOTE: Significance of difference between the two samples: *s*=.05, *ss*=.01, *sss*=.001.
[1]Data based on four questionnaire forms. N is four-fifths of N indicated.
[2]Adjusted for underreporting of amyl and butyl nitrites (see text).
[3]Data based on a single questionnaire form. N is one-fifth of N indicated.
[4]Adjusted for underreporting of PCP (see text).
[5]Only drug use which was not under a doctor's orders is included here.
[6]Data based on two questionnaire forms. N is two-fifths of N indicated.

Table 3 (cont.)
Lifetime Prevalence of Use of Sixteen Types of Drugs, by Subgroups, DoDDS and Stateside, Class of 1987

Percent ever used

	Sex				College Plans			
	Male		Female		No		Yes	
Approx. N =	*Stateside (7700)*	DoDDS (1300)	*Stateside (8200)*	DoDDS (1300)	*Stateside (5000)*	DoDDS (600)	*Stateside (10300)*	DoDDS (1900)
Marijuana/Hashish	52.0	46.0ss	48.0	41.0sss	57.0	53.5	46.4	40.1sss
Inhalants[1]	20.1	28.4sss	14.2	21.0sss	19.6	32.9sss	15.9	21.7sss
Inhalants Adjusted[2]	21.8	30.0sss	15.9	22.0sss	21.4	33.4sss	17.5	23.3sss
Amyl/Butyl Nitrites[3]	6.2	8.3	3.5	2.8	5.8	8.8	4.3	4.5
Hallucinogens	11.3	9.6	8.9	5.7sss	13.1	12.1	8.5	5.9ss
Hallucinogens Adjusted[4]	11.6	9.6	9.3	5.9ss	13.8	12.5	8.7	5.9ss
LSD	9.7	8.2	6.8	4.9s	11.3	11.1	6.6	4.9s
PCP[3]	3.8	2.7	2.3	2.0	4.9	3.3	2.0	2.0
Cocaine	16.5	11.4sss	13.6	6.4sss	18.4	13.2ss	13.2	7.4sss
"Crack"[6]	6.7	4.0s	4.2	2.5	7.9	3.9s	3.8	3.0
Heroin	1.6	2.2	0.8	0.7	1.5	3.4ss	1.0	0.9
Other opiates[5]	10.1	10.9	8.3	9.5	10.9	12.2	8.3	9.5
Stimulants Adjusted[5]	20.1	17.7	22.9	20.5	28.1	25.1	18.4	16.6
Sedatives[5]	9.3	11.3	8.0	8.6	11.2	14.0	7.4	8.4
Barbiturates[5]	7.9	9.8s	6.7	7.8	9.7	11.8	6.2	7.7s
Methaqualone[5]	4.7	5.9	3.3	3.4	5.1	8.1s	3.4	3.6
Tranquilizers[5]	10.5	11.5	11.0	11.9	13.1	13.3	9.9	10.6
Alcohol	92.4	94.9ss	92.2	95.6sss	93.2	96.6ss	92.1	94.9ss
Cigarettes	65.1	66.5	68.9	72.4s	74.9	79.4s	63.0	66.3s

NOTE: Significance of difference between the two samples: $s = .05$, $ss = .01$, $sss = .001$.
[1]Data based on four questionnaire forms. N is four-fifths of N indicated.
[2]Adjusted for underreporting of amyl and butyl nitrites (see text).
[3]Data based on a single questionnaire form. N is one-fifth of N indicated.
[4]Adjusted for underreporting of PCP (see text).
[5]Only drug use which was not under a doctor's orders is included here.
[6]Data based on two questionnaire forms. N is two-fifths of N indicated.

Table 4
Annual Prevalence of Use of Sixteen Types of Drugs, by Subgroups, DoDDS and Stateside, Class of 1987

Percent who used in last twelve months

	Total			DoDDS Region				
Approx. N =	*Stateside* (16300)	DoDDS (2700)	DoDDS-*Stateside* Diff.	Atlantic (490)	Germany (1100)	Mediterranean (250)	Pacific (590)	Panama (260)
Marijuana/Hashish	36.3	28.1	−8.2sss	23.5	30.4	33.3	25.1	19.4
Inhalants[1]	6.9	9.7	+2.8sss	8.8	11.0	5.8	9.9	3.8
Inhalants Adjusted[2]	8.1	10.3	+2.2s	9.6	11.7	11.6	9.9	3.8
Amyl/Butyl Nitrites[3]	2.6	2.7	+0.1	3.2	2.4	1.9	4.2	2.1
Hallucinogens	6.4	3.0	−3.4sss	1.6	3.6	2.7	3.2	0.0
Hallucinogens Adjusted[4]	6.7	3.1	−3.6sss	3.3	3.6	2.7	3.2	0.0
LSD	5.2	2.5	−2.7sss	1.2	3.2	2.7	1.7	0.0
PCP[3]	1.3	1.1	−0.2	1.1	1.4	0.0	0.8	0.0
Cocaine	10.3	4.1	−6.2sss	2.2	3.8	5.0	3.8	9.7
"Crack"[6]	4.0	1.6	−2.4sss	1.1	1.4	4.0	1.3	2.1
Heroin	0.5	0.6	+0.1	0.2	0.7	1.2	0.2	0.0
Other opiates[5]	5.3	5.4	+0.1	4.7	4.2	8.6	10.7	1.2
Stimulants Adjusted[5]	12.2	9.1	−3.1sss	7.3	9.3	6.9	13.5	3.1
Sedatives[5]	4.1	4.9	+0.8	2.8	4.7	4.2	8.4	2.7
Barbiturates[5]	3.6	4.3	+0.7	2.4	4.3	2.7	7.8	2.3
Methaqualone[5]	1.5	1.8	+0.3	1.2	1.8	2.3	2.2	0.8
Tranquilizers[5]	5.5	5.7	+0.2	5.7	5.4	6.2	7.7	2.7
Alcohol	85.7	90.4	+4.7sss	94.2	90.1	93.2	88.3	88.0
Cigarettes	NA	NA	NA	NA	NA	NA	NA	NA

NOTE: Significance of difference between the two samples: *s*=.05, *ss*=.01, *sss*=.001. NA indicates data not available.

[1]Data based on four questionnaire forms. N is four-fifths of N indicated.
[2]Adjusted for underreporting of amyl and butyl nitrites (see text).
[3]Data based on a single questionnaire form. N is one-fifth of N indicated.
[4]Adjusted for underreporting of PCP (see text).
[5]Only drug use which was not under a doctor's orders is included here.
[6]Data based on two questionnaire forms. N is two-fifths of N indicated.

Table 4 (cont.)
Annual Prevalence of Use of Sixteen Types of Drugs, by Subgroups, DoDDS and Stateside, Class of 1987

Percent who used in last twelve months

	Sex				College Plans			
	Male		Female		No		Yes	
Approx. N =	*Stateside (7700)*	DoDDS (1300)	*Stateside (8200)*	DoDDS (1300)	*Stateside (5000)*	DoDDS (600)	*Stateside (10300)*	DoDDS (1900)
Marijuana/Hashish	38.6	30.5sss	33.8	25.4sss	40.6	34.6s	34.0	25.2sss
Inhalants[1]	8.3	12.9sss	5.6	6.6	8.0	13.9sss	6.4	8.2s
Inhalants Adjusted[2]	9.7	13.9ss	6.7	6.8	9.9	14.3s	7.2	8.9
Amyl/Butyl Nitrites[3]	3.8	4.7	1.7	0.8	3.7	6.0	2.1	1.7
Hallucinogens	7.5	3.9sss	5.2	2.0sss	7.9	5.1s	5.4	2.2sss
Hallucinogens Adjusted[4]	7.8	3.9sss	5.5	2.2sss	8.6	5.7	5.5	2.2sss
LSD	6.4	3.2sss	3.9	1.6sss	6.6	4.5	4.3	1.7sss
PCP[3]	1.7	1.4	0.9	0.8	2.3	2.7	0.8	0.6
Cocaine	11.3	5.0sss	9.2	3.0sss	12.4	6.3sss	9.0	3.4sss
"Crack"[6]	4.8	1.5ss	3.1	1.4s	5.5	2.7	2.8	1.1ss
Heroin	0.7	0.9	0.3	0.1	0.5	1.2s	0.4	0.4
Other opiates[5]	5.6	5.8	4.9	4.9	6.1	6.5	4.8	5.1
Stimulants Adjusted[5]	11.8	8.4ss	12.4	9.8s	16.0	12.1s	10.2	8.1ss
Sedatives[5]	4.6	5.2	3.6	4.5	5.4	7.0	3.5	4.1
Barbiturates[5]	4.0	4.6	3.2	4.0	4.7	5.6	3.0	3.9
Methaqualone[5]	2.0	2.1	1.0	1.3	2.0	2.9	1.2	1.4
Tranquilizers[5]	5.2	6.0	5.8	5.3	6.7	6.7	4.9	5.4
Alcohol	86.3	90.7sss	85.3	90.0sss	86.5	92.4sss	85.7	90.0sss
Cigarettes	NA	NA	NA	NA	NA	NA	NA	NA

NOTE: Significance of difference between the two samples: *s*=.05, *ss*=.01, *sss*=.001. NA indicates data not available.

[1]Data based on four questionnaire forms. N is four-fifths of N indicated.
[2]Adjusted for underreporting of amyl and butyl nitrites (see text).
[3]Data based on a single questionnaire form. N is one-fifth of N indicated.
[4]Adjusted for underreporting of PCP (see text).
[5]Only drug use which was not under a doctor's orders is included here.
[6]Data based on two questionnaire forms. N is two-fifths of N indicated.

Table 5
Thirty-Day Prevalence of Use of Sixteen Types of Drugs, by Subgroups, DoDDS and Stateside, Class of 1987

Percent who used in last thirty days

	Total			DoDDS Region				
Approx. N =	*Stateside* (16300)	DoDDS (2700)	DoDDS-*Stateside* Diff.	Atlantic (490)	Germany (1100)	Mediterranean (250)	Pacific (590)	Panama (260)
Marijuana/Hashish	21.0	13.9	−7.1sss	9.1	16.0	17.6	11.0	8.6
Inhalants[1]	2.8	3.6	+0.8	3.3	4.0	2.9	3.6	1.4
Inhalants Adjusted[2]	3.5	3.8	+0.3	4.4	4.2	2.9	3.6	1.4
Amyl/Butyl Nitrites[3]	1.3	1.1	−0.2	1.1	1.4	0.0	0.8	0.0
Hallucinogens	2.5	1.1	−1.4sss	0.4	1.4	0.8	1.2	0.0
Hallucinogens Adjusted[4]	2.8	1.3	−1.5ss	0.4	1.4	0.8	1.2	0.0
LSD	1.8	0.7	−1.1sss	0.4	1.0	0.8	0.3	0.0
PCP[3]	0.6	0.1	−0.5	1.1	0.0	0.0	0.0	0.0
Cocaine	4.3	1.3	−3.0sss	0.6	1.3	2.3	0.3	3.9
"Crack"[6]	1.5	0.3	−1.2ss	0.5	0.5	0.0	0.0	0.0
Heroin	0.2	0.2	0.0	0.2	0.3	0.4	0.0	0.0
Other opiates[5]	1.8	2.4	+0.6s	1.8	2.3	1.6	4.8	0.0
Stimulants Adjusted[5]	5.2	4.0	−1.2s	1.6	4.7	2.3	5.8	0.0
Sedatives[5]	1.7	2.1	+0.4	1.2	2.2	1.9	3.2	0.4
Barbiturates[5]	1.4	1.8	+0.4	1.0	1.9	1.2	2.9	0.4
Methaqualone[5]	0.6	0.7	+0.1	0.4	0.9	0.8	0.5	0.0
Tranquilizers[5]	2.0	2.0	0.0	1.4	2.0	1.6	3.4	0.4
Alcohol	66.4	74.5	+8.1sss	82.2	73.9	80.0	69.6	69.4
Cigarettes	29.4	33.8	+4.4sss	31.4	34.1	44.7	34.9	22.4

NOTE: Significance of difference between the two samples: *s*=.05, *ss*=.01, *sss*=.001.
[1]Data based on four questionnaire forms. N is four-fifths of N indicated.
[2]Adjusted for underreporting of amyl and butyl nitrites (see text).
[3]Data based on a single questionnaire form. N is one-fifth of N indicated.
[4]Adjusted for underreporting of PCP (see text).
[5]Only drug use which was not under a doctor's orders is included here.
[6]Data based on two questionnaire forms. N is two-fifths of N indicated.

Table 5 (cont.)
Thirty-Day Prevalence of Use of Sixteen Types of Drugs, by Subgroups, DoDDS and Stateside, Class of 1987

Percent who used in last thirty days

	Sex				College Plans			
	Male		Female		No		Yes	
Approx. N =	*Stateside (7700)*	DoDDS (1300)	*Stateside (8200)*	DoDDS (1300)	*Stateside (5000)*	DoDDS (600)	*Stateside (10300)*	DoDDS (1900)
Marijuana/Hashish	23.1	16.2sss	18.6	11.4sss	25.1	18.1ss	18.5	12.0sss
Inhalants[1]	3.4	4.9s	2.2	2.4	4.0	5.7	2.2	2.8
Inhalants Adjusted[2]	4.4	5.3	2.7	2.5	5.3	6.9	2.6	2.8
Amyl/Butyl Nitrites[3]	2.0	1.9	0.7	0.3	2.4	3.8	0.8	0.2
Hallucinogens	3.1	1.3sss	1.8	0.8s	2.8	2.5	2.1	0.7sss
Hallucinogens Adjusted[4]	3.4	1.3ss	2.0	1.0	3.5	5.1	2.2	0.7s
LSD	2.5	1.1ss	1.1	0.4s	2.0	1.8	1.5	0.4sss
PCP[3]	0.9	0.0	0.4	0.3	1.3	0.5	0.3	0.0
Cocaine	4.9	1.5sss	3.7	0.9sss	5.3	1.8sss	3.6	1.1sss
"Crack"[6]	1.7	0.3s	1.1	0.1s	1.7	0.3	1.1	0.2s
Heroin	0.3	0.4	0.1	0.0	0.2	0.3	0.2	0.2
Other opiates[5]	2.0	3.1s	1.7	1.6	2.5	3.8	1.5	2.1
Stimulants Adjusted[5]	5.0	3.9	5.2	3.9	7.2	5.5	4.0	3.5
Sedatives[5]	2.0	2.1	1.3	1.9	2.4	1.8	1.2	2.2ss
Barbiturates[5]	1.7	1.7	1.1	1.7	1.9	1.4	1.0	1.9ss
Methaqualone[5]	0.9	0.8	0.3	0.4	0.9	0.9	0.4	0.6
Tranquilizers[5]	2.0	2.1	2.0	1.9	2.4	2.2	1.7	1.9
Alcohol	69.9	76.5sss	63.1	72.0sss	68.6	75.7ss	65.7	74.2sss
Cigarettes	27.0	32.7sss	31.4	34.0	39.7	47.2ss	24.3	28.6sss

NOTE: Significance of difference between the two samples: $s=.05$, $ss=.01$, $sss=.001$.
[1]Data based on four questionnaire forms. N is four-fifths of N indicated.
[2]Adjusted for underreporting of amyl and butyl nitrites (see text).
[3]Data based on a single questionnaire form. N is one-fifth of N indicated.
[4]Adjusted for underreporting of PCP (see text).
[5]Only drug use which was not under a doctor's orders is included here.
[6]Data based on two questionnaire forms. N is two-fifths of N indicated.

Table 6
Thirty-Day Prevalence of Daily Use of Sixteen Types of Drugs, by Subgroups, DoDDS and Stateside, Class of 1987

Percent who used daily in last thirty days

	Total			DoDDS Region				
Approx. N =	*Stateside (16300)*	DoDDS (2700)	DoDDS-*Stateside* Diff.	Atlantic (490)	Germany (1100)	Mediterranean (250)	Pacific (590)	Panama (260)
Marijuana/Hashish	3.3	1.8	−1.6sss	0.2	2.4	3.5	0.3	0.8
Inhalants[1]	0.1	0.3	+0.2	0.0	0.3	0.0	0.6	0.0
Inhalants Adjusted[2]	0.4	0.4	−0.0	NA	NA	NA	NA	NA
Amyl/Butyl Nitrites[3]	0.3	0.1	−0.1	1.1	0.0	0.0	0.0	0.0
Hallucinogens	0.1	0.0	−0.1	0.0	0.0	0.0	0.0	0.0
Hallucinogens Adjusted[4]	0.2	0.1	−0.1	NA	NA	NA	NA	NA
LSD	0.1	0.0	−0.1	0.0	0.0	0.0	0.0	0.0
PCP[3]	0.3	0.1	−0.2	1.1	0.0	0.0	0.0	0.0
Cocaine	0.3	0.2	−0.1	0.0	0.2	0.4	0.2	0.0
"Crack"[6]	0.2	0.1	−0.1	0.5	0.0	0.0	0.0	0.0
Heroin	0.0	0.1	+0.1s	0.0	0.2	0.4	0.0	0.0
Other opiates[5]	0.1	0.4	+0.3ss	0.0	0.3	0.0	1.7	0.0
Stimulants Adjusted[5]	0.3	0.2	−0.1	0.0	0.2	0.0	0.5	0.0
Sedatives[5]	0.1	0.1	+0.0	0.0	0.1	0.4	0.2	0.0
Barbiturates[5]	0.1	0.1	+0.0	0.0	0.1	0.4	0.2	0.0
Methaqualone[5]	0.0	0.0	−0.0	0.0	0.0	0.0	0.0	0.0
Tranquilizers[5]	0.1	0.0	−0.0	0.0	0.0	0.0	0.2	0.0
Alcohol	4.8	8.0	+3.2sss	7.0	9.0	7.5	6.7	5.6
Cigarettes	18.7	22.9	+4.2sss	21.8	23.2	33.6	23.1	12.2

NOTE: Significance of difference between the two samples: $s = .05$, $ss = .01$, $sss = .001$.
[1]Data based on four questionnaire forms. N is four-fifths of N indicated.
[2]Adjusted for underreporting of amyl and butyl nitrites (see text).
[3]Data based on a single questionnaire form. N is one-fifth of N indicated.
[4]Adjusted for underreporting of PCP (see text).
[5]Only drug use which was not under a doctor's orders is included here.
[6]Data based on two questionnaire forms. N is two-fifths of N indicated.

Table 6 (cont.)
Thirty-Day Prevalence of Daily Use of Sixteen Types of Drugs, by Subgroups, DoDDS and Stateside, Class of 1987

Percent who used daily in last thirty days

	Sex				College Plans			
	Male		Female		No		Yes	
Approx. N =	*Stateside (7700)*	DoDDS (1300)	*Stateside (8200)*	DoDDS (1300)	*Stateside (5000)*	DoDDS (600)	*Stateside (10300)*	DoDDS (1900)
Marijuana/Hashish	4.3	3.0s	2.1	0.6sss	5.2	3.8	2.0	1.0ss
Inhalants[1]	0.2	0.5	0.1	0.1	0.3	0.8	0.1	0.1
Inhalants Adjusted[2]	NA	NA	NA	NA	NA	NA	NA	NA
Amyl/Butyl Nitrites[3]	0.4	0.0	0.1	0.3	0.8	0.5	0.0	0.0
Hallucinogens	0.1	0.0	0.1	0.0	0.1	0.0	0.0	0.0
Hallucinogens Adjusted[4]	NA	NA	NA	NA	NA	NA	NA	NA
LSD	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PCP[3]	0.4	0.0	0.2	0.3	0.9	0.5	0.0	0.0
Cocaine	0.3	0.3	0.2	0.1	0.3	0.2	0.2	0.1
"Crack"[6]	0.3	0.0	0.1	0.1	0.5	0.3	0.0	0.0
Heroin	0.0	0.3s	0.0	0.0	0.0	0.3ss	0.0	0.1
Other opiates[5]	0.1	0.6ss	0.1	0.2	0.2	0.6	0.1	0.4ss
Stimulants Adjusted[5]	0.2	0.1	0.4	0.3	0.5	0.0	0.2	0.2
Sedatives[5]	0.1	0.1	0.0	0.1	0.2	0.0	0.0	0.1
Barbiturates[5]	0.1	0.1	0.0	0.1	0.1	0.0	0.0	0.1
Methaqualone[5]	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0
Tranquilizers[5]	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.0
Alcohol	7.2	11.0sss	.2.5	5.1sss	7.0	11.0sss	3.6	6.6sss
Cigarettes	16.4	22.5sss	20.6	23.0	29.0	36.7sss	13.3	17.8sss

NOTE: Significance of difference between the two samples: *s*=.05, *ss*=.01, *sss*=.001.
[1]Data based on four questionnaire forms. N is four-fifths of N indicated.
[2]Adjusted for underreporting of amyl and butyl nitrites (see text).
[3]Data based on a single questionnaire form. N is one-fifth of N indicated.
[4]Adjusted for underreporting of PCP (see text).
[5]Only drug use which was not under a doctor's orders is included here.
[6]Data based on two questionnaire forms. N is two-fifths of N indicated.

- **Heroin** has a high noncontinuation rate among both DoDDS (60%) and stateside seniors (58%). The **opiates other than heroin** have slightly lower noncontinuation rates at 48% (DoDDS) and 42% (stateside).

- The **tranquilizers** have similar noncontinuation rates in both DoDDs and stateside seniors at approximately 50%.

- Noncontinuation rates for the two **licit drugs** are extremely low. **Alcohol** which has been tried by nearly all seniors, has a noncontinuation rate among DoDDS seniors of only 5%. This compares to stateside seniors noncontinuation rate of 9%.

- For **cigarettes**, the definition of **continuation**[4] is a little different; it is the percentage of those who say they ever smoked "regularly" who also reported smoking at least one cigarette during the past month. Hardly any of those reporting they were ever "regular smokers" have ceased use (10% of the DoDDS seniors and 12% of the stateside seniors).

PREVALENCE COMPARISONS FOR IMPORTANT SUBGROUPS

Sex Differences

- In general, higher proportions of males than females in DoDDS schools are involved in drug use--a fact which is also true stateside. The picture is a complicated one (see Figure F and Tables 3 through 6). In the DoDDS system 36% of the males and 32% of the females report using an **illicit drug** during the past year; and nearly equivalent proportions of males and females have used some **illicit drug other than marijuana** during the last year; 19% among males and 18% among females. About 17% of the males and 14% of the females have used **marijuana only**.

- Overall, among DoDDS seniors, **marijuana** use is somewhat higher among males, and daily use of marijuana is about five times as frequent among males (3.0% versus 0.6%) as females.

- In the DoDDS schools, males have higher prevalence rates than females for most of the other illicit drugs. Males have much higher annual prevalence rates for **inhalants** (adjusted)--13.9% versus 6.8%, and 4.7% versus 0.8% for the **nitrites**. Males are also notably higher in annual prevalences of **hallucinogens** (3.9% vs. 2.2%, adjusted), **cocaine** (5.0% vs. 3.0%), and **heroin** (0.9% vs. 0.1%). Annual prevalences for most of the psychotherapeutic drugs show only slightly higher rates for males compared to females, including **opiates other than heroin** (5.8% for males, 4.9% for females), **sedatives** (5.2% vs. 4.5%), **barbiturates** (4.6% vs. 4.0%), **methaqualone** (2.1% vs. 1.3%), and **tranquilizers** (6.0% vs. 5.3%).

- Very similar proportions of males and females report having used **"crack" cocaine** in the past year, 1.5% vs. 1.4%.

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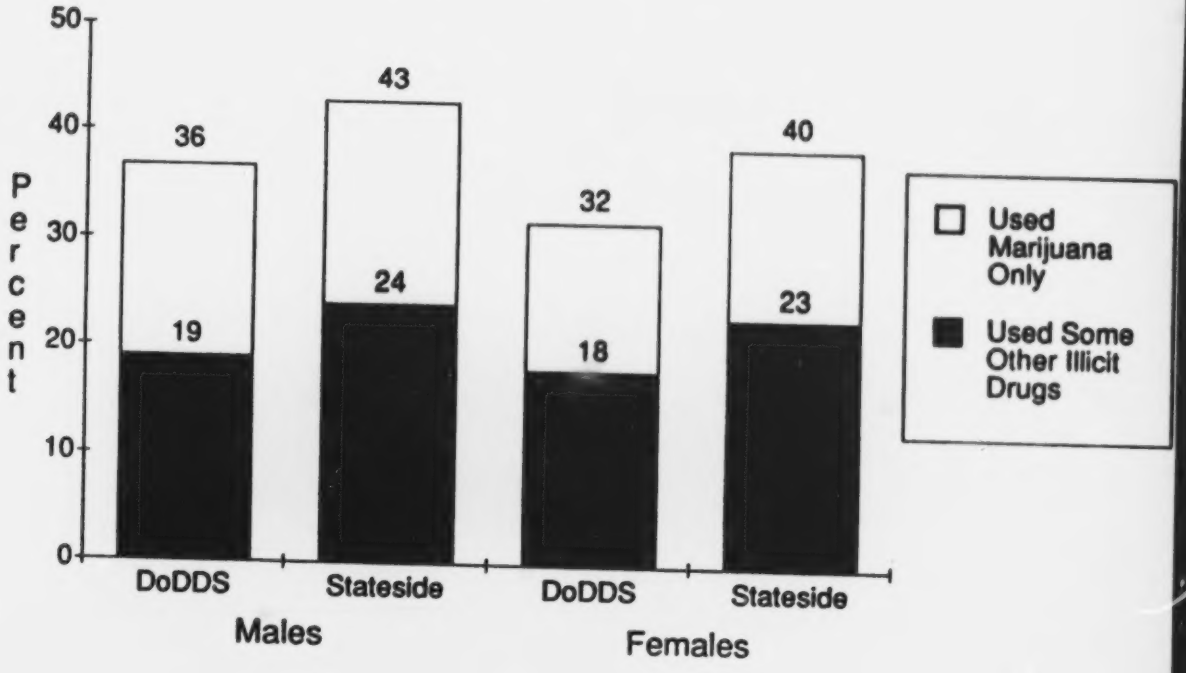
4. A comparable definition of noncontinuation to that used for other drugs is not possible, since cigarette use in the past year is not asked of the seniors.

FIGURE F

Annual Prevalence of an Illicit Drug Use Index by Sex, DoDDS and Stateside Class of 1987



NOTES: Use of "some other illicit drugs" includes any use of hallucinogens, cocaine, and heroin, or any use which is not under a doctor's orders of other opiates, stimulants, sedatives, or tranquilizers.

- The only illicit drug which has been used in the last year by more DoDDS females than males is **stimulants** (adjusted).

- Nearly all these male-female differences observed among seniors in the DoDDS schools parallel the male-female differences found stateside with two exceptions. **"Crack" cocaine** is more prevalent among stateside males than among females (annual rates are 4.8% and 3.1%), and **tranquilizer** use is slightly higher among stateside females than among males (annual rates are 5.8% and 5.2%).

- Frequent use of **alcohol** tends to be disproportionately concentrated among males. Daily use, for example, is reported by 11% of the DoDDS males but by only 5.1% of the DoDDS females. Also, males drink large quantities of alcohol in a single sitting more often than do females. However, both males and females have very similar lifetime and annual prevalence levels of alcohol use. Among stateside seniors, males have higher rates of alcohol use, particularly at the more frequent levels of use.

- Finally, females outnumber the proportion of male **cigarette** smokers at the lifetime, thirty day and daily use levels among DoDDS seniors; however, males are more likely to smoke a half-a-pack or more of cigarettes on a daily basis (15.3% of the males in comparison to 13.8% of the females). Such differences in smoking rates between males and females are also found among the stateside seniors, except that, at the half-a-pack a day or more level, more stateside females smoke than males (12.4% of females versus 10.1% of males).

Differences Related to College Plans

- Three-quarters (75%) of DoDDS seniors compared to two-thirds (67%) of stateside seniors plan to attend college.

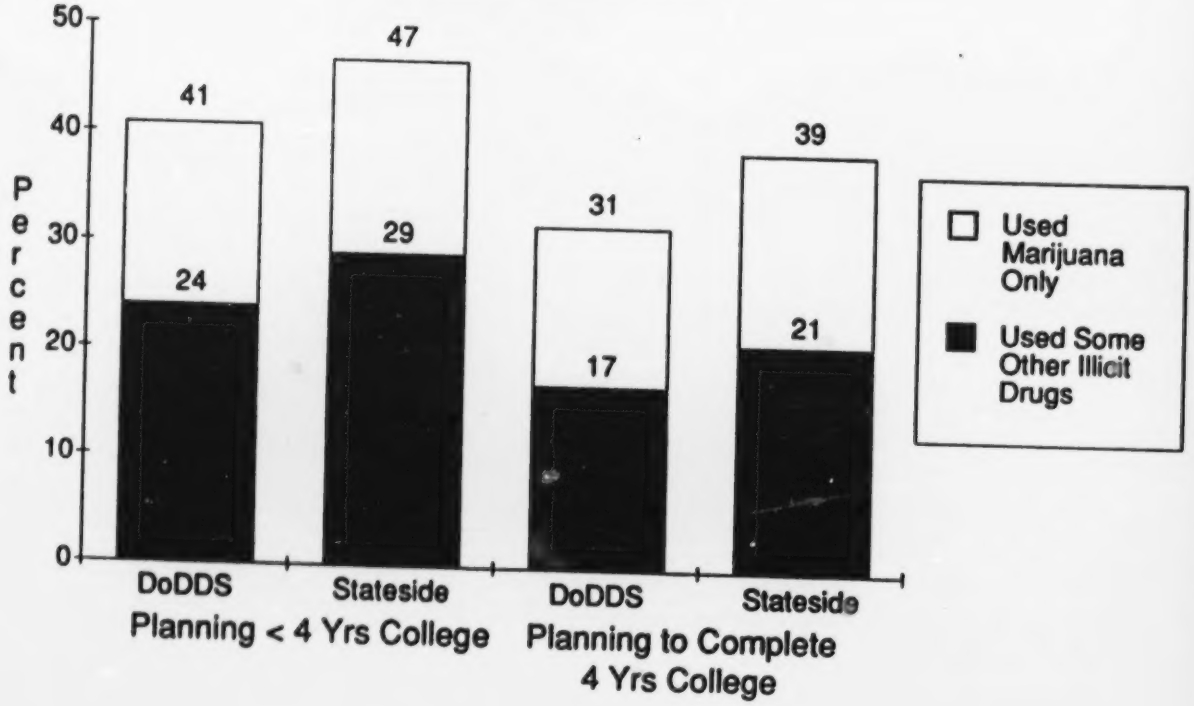
- Overall, DoDDS seniors who expect to complete four years of college (referred to here as the "college bound") have lower rates of **illicit drug** use than those not expecting to do so, as is true stateside. (See Figure G and Tables 3 through 6.) Thirty-one percent of the DoDDS college-bound as compared to 41% of the noncollege-bound seniors, have used an illicit drug in the past year.

- Annual **marijuana** use is reported by 25% of the college-bound versus 35% of noncollege-bound. The college versus noncollege-bound difference in marijuana use is more pronounced among seniors in the DoDDS than in the stateside system, where the comparable figures are 34% and 41%.

- There is a substantial difference in the proportion of these two groups using **any illicit drug other than marijuana**. Of the college-bound DoDDS seniors, 17% reported such behavior in the prior year vs. 24% of the noncollege-bound. A similar pattern emerges among stateside seniors with 21% of college-bound seniors reporting use of any illicit drug other than marijuana vs. 29% of noncollege-bound.

FIGURE G

Annual Prevalence of an Illicit Drug Use Index by College Plans, DoDDS and Stateside Class of 1987



NOTES: Use of "some other illicit drugs" includes any use of hallucinogens, cocaine, and heroin, or any use which is not under a doctor's orders of other opiates, stimulants, sedatives, or tranquilizers.

- For most of the specific illicit drugs other than marijuana, annual prevalence is substantially higher among the noncollege-bound both in DoDDS and in stateside schools, as Table 4 illustrates.

- **Daily marijuana use** is much higher among noncollege-bound than among college-bound DoDDS seniors (3.8% versus 1.0%), as is true stateside (5.2% vs. 2.0%).

- Frequent **alcohol** use is also considerably more prevalent among the noncollege-bound seniors in both DoDDS and stateside schools. Drinking on a daily basis is reported by 11% of the noncollege-bound DoDDS seniors vs. 6.6% of the college-bound. On the other hand, there are practically no differences between these groups in annual, lifetime or monthly alcohol prevalence.

- By far the largest difference in substance use between the college and noncollege-bound involves **cigarette** smoking. There is a dramatic difference here, with only 10% of the college-bound in DoDDS smoking a half a pack or more daily compared with 27% of the noncollege-bound. (The difference among stateside seniors is also dramatic with 9% of college-bound smoking half-a-pack or more daily vs. 19% of noncollege-bound.) Obviously, most of the overall difference in smoking rates between DoDDS and stateside seniors are attributable to differences observed in the noncollege-bound segment.

Regional Differences

- There are some fair-size regional differences in rates of **illicit drug use** among DoDDS seniors (see Figure H). The highest rate is in the Mediterranean region, where 38% say they have used a drug illicitly in the past year, followed by Germany with 36%, the Pacific with 35% and the Atlantic with 30%. The Panama region is quite a bit lower than the other regions with only 24% having used any illicit drug in the past year.

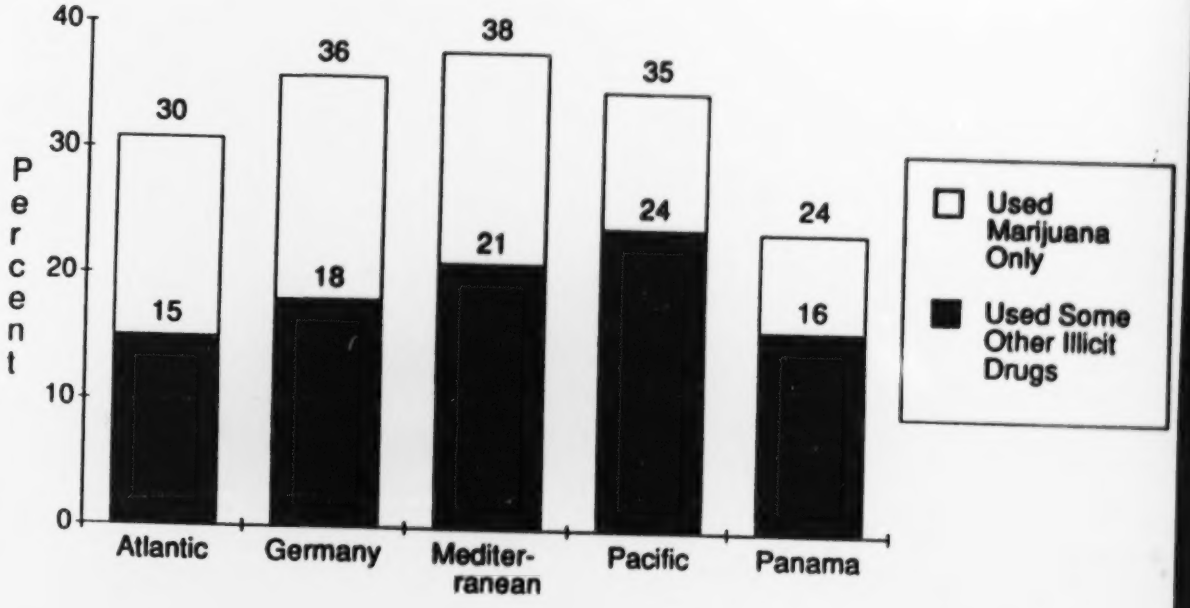
- There is some regional variation in terms of the percent using **some illicit drug other than marijuana** in the past year that differs from the regional variation in the overall illicit drug use: 24% in the Pacific, 21% in the Mediterranean, 18% in Germany, 16% in Panama, and 15% in the Atlantic region of DoDDS have used an illicit drug other than marijuana in the past year.

- As Table 4 illustrates, the Panama region shows the lowest annual usage levels for a number of drugs, including marijuana, inhalants, opiates other than heroin, stimulants, sedatives both as a class of drugs, and the barbiturates and methaqualone taken separately, and tranquilizers. In addition, students in the Panama region report virtually no (0.0%) use of heroin or the class of hallucinogens, including LSD and PCP specifically, in the past year. However, the Panama region shows the highest usage level for cocaine, undoubtedly because of greater availability for that drug. (The annual usage level of "crack" cocaine, however, is higher in the Mediterranean region, where 4% of seniors indicated such use.)

- The Pacific, Mediterranean, and Germany regions all show high usage levels for many individual illicit drugs. The Pacific region shows the

FIGURE H

Annual Prevalence of an Illicit Drug Use Index by Region, DoDDS Class of 1987



NOTES: Use of "some other illicit drugs" includes any use of hallucinogens, cocaine, and heroin, or any use which is not under a doctor's orders of other opiates, stimulants, sedatives, or tranquilizers.

highest levels of use for the opiates other than heroin, stimulants, the general class of sedatives and the specific sedative--barbiturates, tranquilizers, and the nitrites specifically. The Mediterranean shows the highest usage level of marijuana, heroin, the specific sedative--methaqualone, and as previously mentioned, "crack" cocaine. Germany has the highest annual usage levels for inhalants, the class of hallucinogens and LSD and PCP specifically.

- Daily drinking is higher in Germany than in the other regions.

- Again, one of the larger differences occurs for regular cigarette smoking. Smoking half-a-pack or more a day occurs most often in the Mediterranean (21%), followed by Germany and the Atlantic (15%), and Pacific (13%) regions. Far fewer seniors in Panama (7%) smoke a half-a-pack or more a day. (Data not shown.)

TRENDS IN DRUG USE AMONG HIGH SCHOOL SENIORS

Since this study of seniors in the DoDDS system is the second such study of its kind, trend estimates can be reported for the five-year interval between the two studies; that is, between 1982 and 1987. This section summarizes the trends in drug use between 1982 and 1987, comparing the DoDDS and stateside seniors. As in the previous section, the outcomes discussed include measures of lifetime use, use during the past year, use during the past month, and daily use. Also, the regional trends between 1982 and 1987 for the five regions in the DoDDS system are compared.

TRENDS IN PREVALENCE BETWEEN 1982 AND 1987: DoDDS AND STATESIDE SENIORS

- The use of most illicit drugs decreased significantly between 1982 and 1987 among both DoDDS and stateside high school seniors. Some 64% of both the DoDDS and the stateside senior classes in 1982 reported using **an illicit drug** during their lifetime. (See Figure I.) The comparable figures in 1987 are 53% among DoDDS and 57% among stateside seniors. Even more dramatic was the decrease in the annual prevalence of illicit drug use among DoDDS seniors, which fell from 51% to 34% between 1982 and 1987; among stateside seniors the decrease was considerably less -- from 49% to 42%. (See Figure J.) In 1982, 27% of the DoDDS seniors reported using **an illicit drug other than marijuana** in the past year, in comparison to 19% in 1987. Again, the decrease among stateside seniors was not as sharp, dropping from 30% to 24%.

- Although the overall proportion using illicit drugs has decreased, more varied changes have been occurring for specific drugs.

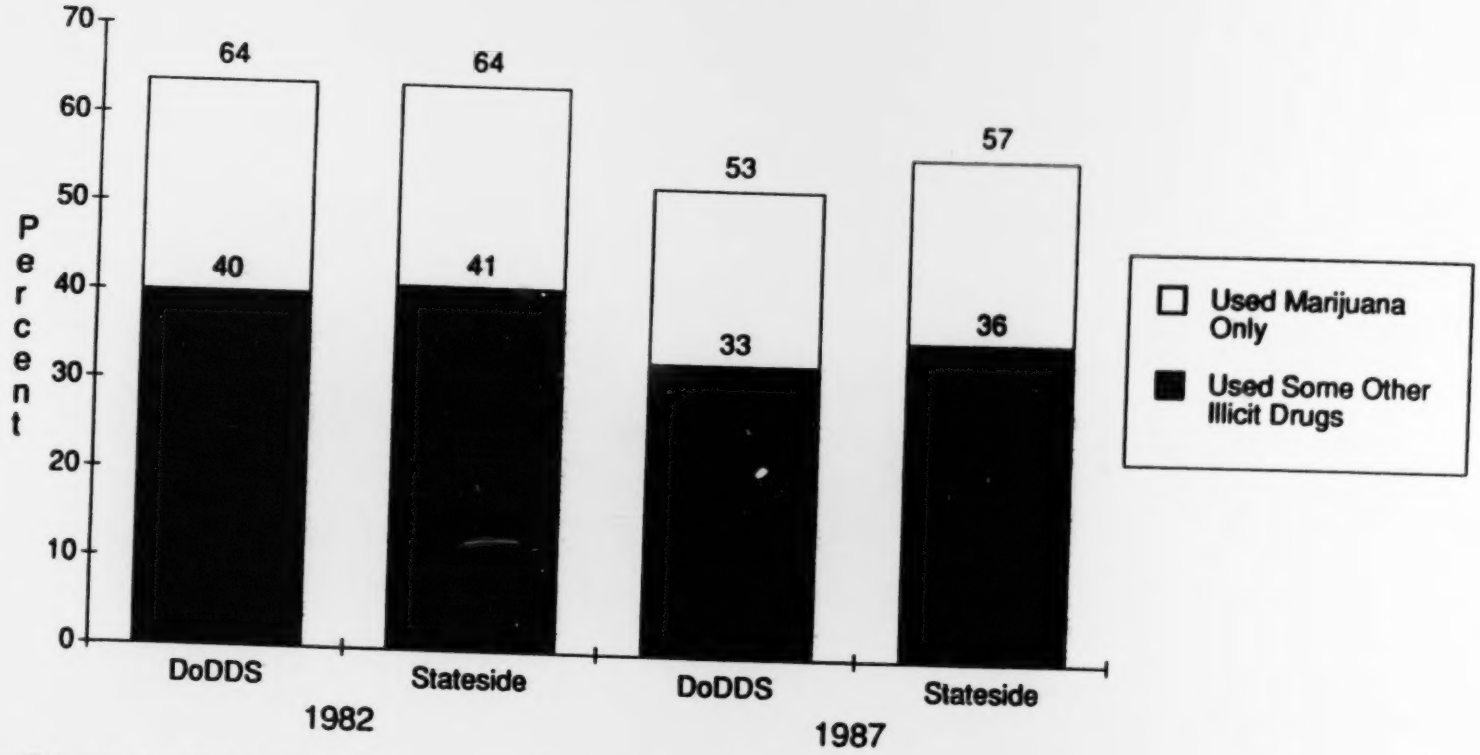
- The use of **marijuana** decreased significantly among both DoDDS and stateside seniors. Although these two groups of seniors had very similar marijuana usage rates in 1982 (46% of the DoDDS and 44% of the stateside seniors had used in the last year), the DoDDS seniors show larger drops (from 46% to 28%) than the stateside seniors (from 44% to 36%). Among the DoDDS seniors, monthly prevalence fell by half over the same interval (from 27% to 14%) while it fell by only about a quarter stateside (from 29% to 21%).

- Also of great importance is that **daily marijuana** use was cut in half among both DoDDS and stateside seniors between 1982 and 1987. However, in both 1982 and 1987 significantly higher proportions of stateside seniors reported using marijuana daily.

- The one class of drugs for which use has increased among both populations is the **inhalants** (unadjusted and adjusted). However, the

FIGURE I

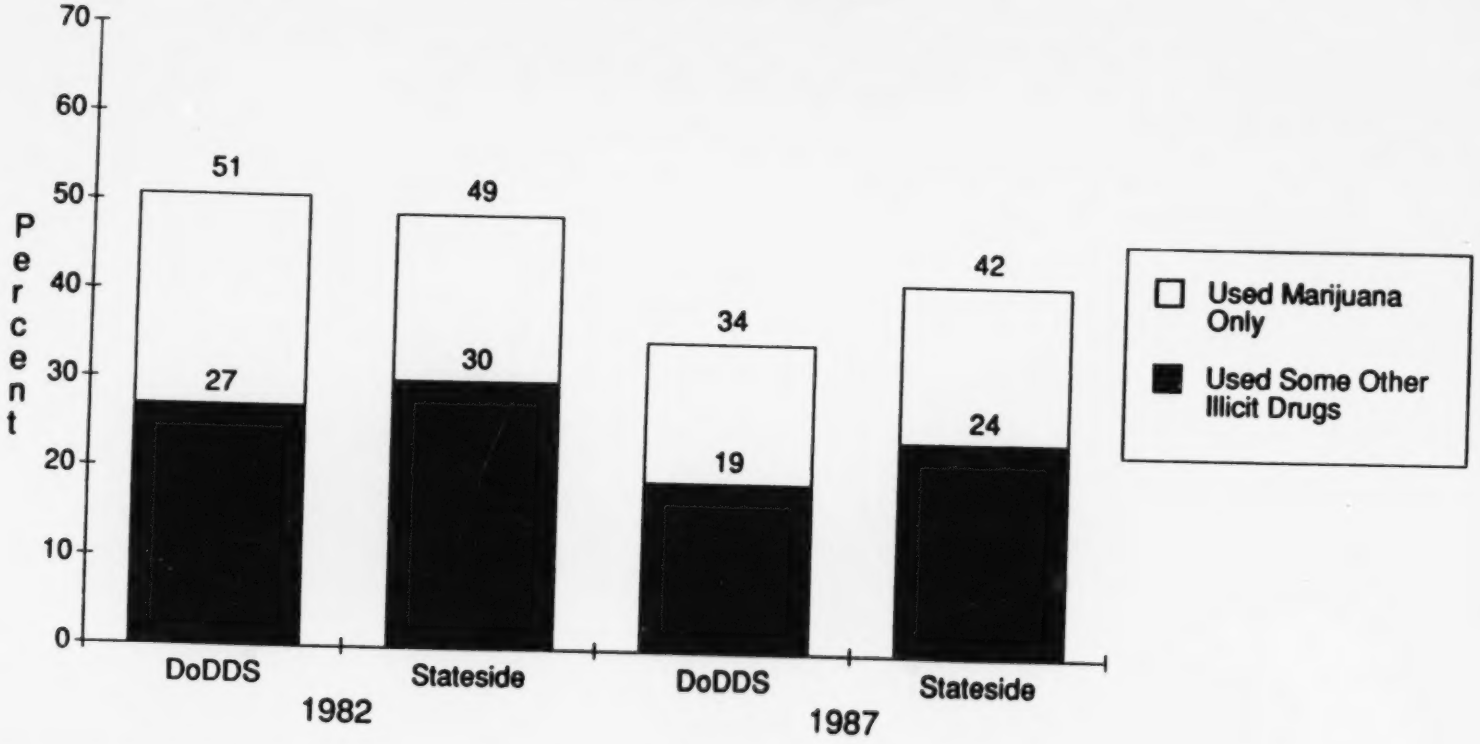
Trends in Lifetime Prevalence of an Illicit Drug Use Index
DoDDS and Stateside Classes of 1982 and 1987



NOTES: Use of "some other illicit drugs" includes any use of hallucinogens, cocaine, and heroin, or any use which is not under a doctor's orders of other opiates, stimulants, sedatives, or tranquilizers.

FIGURE J

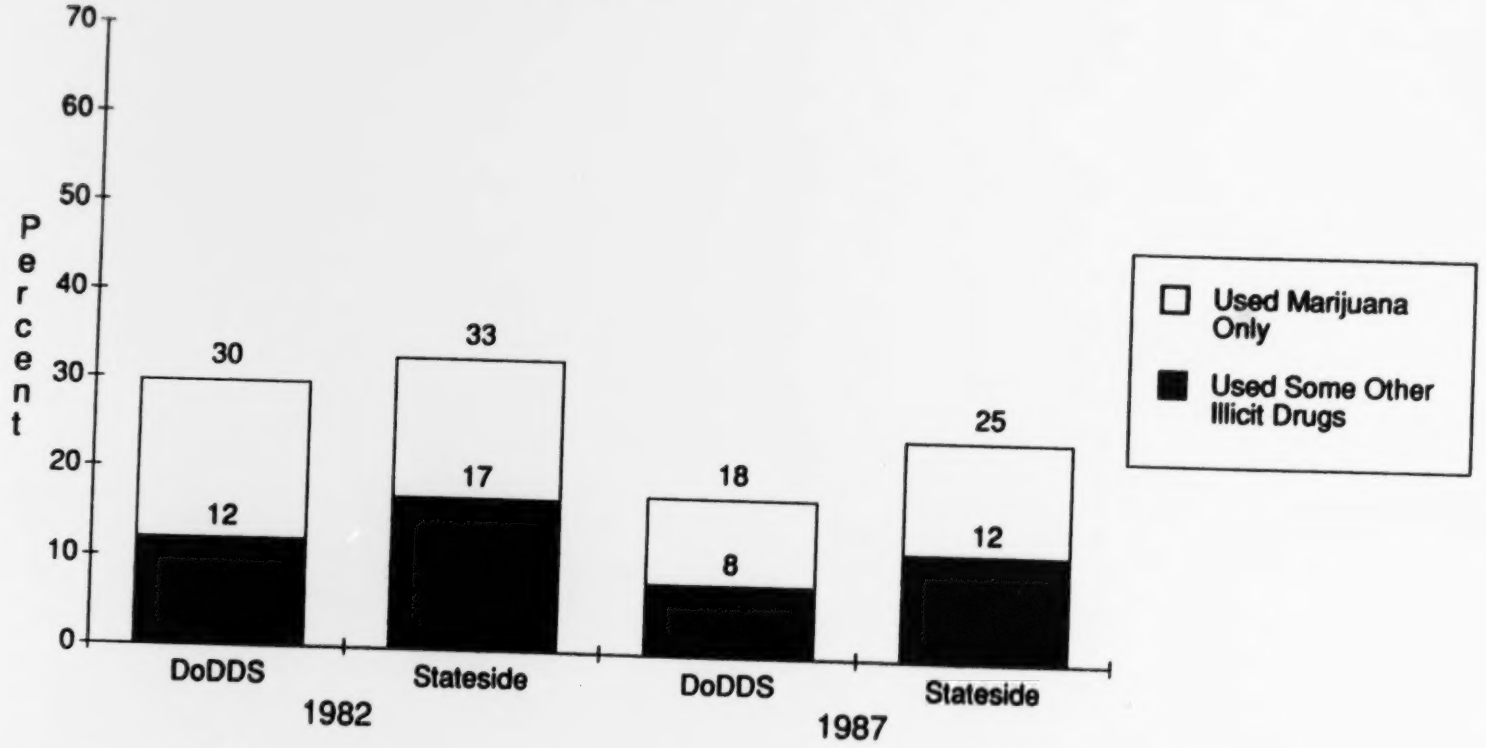
Trends in Annual Prevalence of an Illicit Drug Use Index
DoDDS and Stateside Classes of 1982 and 1987



NOTES: Use of "some other illicit drugs" includes any use of hallucinogens, cocaine, and heroin, or any use which is not under a doctor's orders of other opiates, stimulants, sedatives, or tranquilizers.

FIGURE K

Trends in Thirty-Day Prevalence of an Illicit Drug Use Index
DoDDS and Stateside Classes of 1982 and 1987



NOTES: Use of "some other illicit drugs" includes any use of hallucinogens, cocaine, and heroin, or any use which is not under a doctor's orders of other opiates, stimulants, sedatives, or tranquilizers.

lifetime and annual prevalence rates for **nitrite** use did not show this upward trend: they decreased among both stateside and DoDDS seniors.

- Lifetime, annual, and monthly prevalence of **hallucinogens** (unadjusted and adjusted) dropped significantly between 1982 and 1987 among DoDDS and stateside seniors, with the decreases being greater among the DoDDS seniors. Lifetime and annual use of the specific hallucinogen, **LSD**, decreased significantly among DoDDS seniors, but not among stateside seniors. On the other hand, lifetime and annual use of the specific hallucinogen, **PCP**, decreased significantly among stateside seniors, but among DoDDS seniors only the lifetime decrease was significant, and in fact annual prevalence actually increased slightly. As a result of the generally larger decrease in LSD use among DoDDS seniors, annual use of hallucinogens (adjusted) among DoDDs seniors is now less than half that of their stateside counterparts (3.1% vs. 6.7%).

- **Cocaine** use decreased among both DoDDS and stateside seniors between 1982 and 1987, but again, significantly more among the DoDDS seniors. In both years the stateside seniors reported significantly higher rates of cocaine use than the DoDDS seniors. Between 1982 and 1987 the daily usage rates for cocaine rose among DoDDS students from 0.0% to 0.2% daily users--a small, but statistically significant increase. Among stateside seniors, the comparable figures are from 0.2% in 1982 to 0.3% in 1987. (The trends in "crack" cocaine usage are not available, since "crack" was virtually unknown when the surveys were conducted in 1982.)

- There were parallel decreases in the use of **stimulants** among both DoDDS and stateside seniors between 1982 and 1987, although stateside seniors have consistently had much higher rates of stimulant use than DoDDS seniors. Sixteen percent of the DoDDS seniors had used stimulants in the year prior to the survey in 1982 in comparison to 9% in 1987; the comparable figures for stateside seniors are 20% to 12%. Daily usage rates however, were very similar at 0.2% among DoDDS and 0.3% among stateside seniors in 1987, following a significant drop in daily stimulant use among stateside seniors between 1982 and 1987.

- The annual prevalence levels of the general class **sedatives** dropped substantially between 1982 and 1987, with usage rates by DoDDS and stateside seniors remaining at roughly equivalent levels. However, in 1982, DoDDS seniors used significantly more of the subclass of the **barbiturates**, while stateside seniors used more **methaqualone**. While the use of both subclasses of sedatives decreased significantly among both DoDDS and stateside seniors between 1982 and 1987, somewhat different individual trend lines emerge. Barbiturates fell from 7.8% to 4.3% among DoDDS seniors between 1982 and 1987, and from 5.5% to 3.6% among stateside seniors. The annual prevalence rates of methaqualone, decreased significantly from 3.9% to 1.8% between 1982 and 1987 among DoDDS seniors, and an even sharper reduction occurred among stateside seniors as the annual prevalence rate plunged from 6.8% to 1.5%. The end result of the changes were that DoDDS and stateside seniors had very similar rates of past year use of not only the general class of sedatives in 1987, but each specific class of sedatives as well.

Table 7
Trends in Lifetime Prevalence of Sixteen Types of Drugs
DoDDS and Stateside, Classes of 1982 and 1987

	Percent ever used					
	1982		1987		Change from 1982-1987	
Approx. N =	*State-side* (17700)	DoDDS (2400)	*State-side* (16300)	DoDDS (2700)	*State-side*	DoDDS
Marijuana/Hashish	58.7	57.6	50.2	43.7sss	−8.5sss	−13.9sss
Inhalants[1]	12.8	16.9sss	17.0	24.8sss	+4.2sss	+7.9sss
Inhalants Adjusted[2]	18.0	22.2s	18.6	26.1sss	+0.6	+3.9s
Amyl/Butyl Nitrites[3]	9.8	7.8	4.7	5.4	−5.1sss	−2.4
Hallucinogens	12.5	12.2	10.3	7.7ss	−2.2ss	−4.5sss
Hallucinogens Adjusted[4]	15.0	13.9	10.6	7.8ss	−4.4sss	−6.1sss
LSD	9.6	10.1	8.4	6.6s	−1.2	−3.5sss
PCP[3]	6.0	5.3	3.0	2.3	−3.0sss	−3.0s
Cocaine	16.0	12.8ss	15.2	9.1sss	−0.8	−3.7sss
"Crack"[7]	NA	NA	5.6	3.4ss	NA	NA
Heroin	1.2	2.4sss	1.2	1.5	0.0	−0.9s
Other opiates[5]	9.6	13.8sss	9.2	10.3	−0.4	−3.5sss
Stimulants Adjusted[5-6]	27.9	24.1ss	21.6	19.1s	−6.3sss	−5.0sss
Sedatives[5]	15.2	17.0	8.7	10.1	−6.5sss	−6.9sss
Barbiturates[5]	10.3	13.8sss	7.4	8.9s	−2.9sss	−4.9sss
Methaqualone[5]	10.7	8.8s	4.0	4.8	−6.7sss	−4.0sss
Tranquilizers[5]	14.0	18.1sss	10.9	11.7	−3.1sss	−6.4sss
Alcohol	92.8	96.4sss	92.2	95.3sss	−0.6	−1.1s
Cigarettes	70.1	75.9sss	67.2	69.7s	−2.9s	−6.2sss

NOTES: Significance of difference between the two samples: $s = .05$, $ss = .01$, $sss = .001$. In the pair of columns for each year, the significance test is based on the comparison between DoDDS and Stateside. In the columns showing the 1982-1987 change, the significance test is based on the amount of change within each of these populations. NA indicates data not available.

[1]Data based on four questionnaire forms. N is four-fifths of N indicated.
[2]Adjusted for underreporting of amyl and butyl nitrites (see text).
[3]Data based on a single questionnaire form. N is one-fifth of N indicated.
[4]Adjusted for underreporting of PCP (see text).
[5]Only drug use which was not under a doctor's orders is included here.
[6]Based on the data from the revised question, which attempts to exclude the inappropriate reporting of non-prescription stimulants.
[7]Data based on two questionnaire forms. N is two-fifths of N indicated.

Table 8
Trends in Annual Prevalence of Sixteen Types of Drugs
DoDDS and Stateside, Classes of 1982 and 1987

Percent who used in last twelve months

	1982		1987		Change from 1982–1987	
Approx. N =	*Stateside* (17700)	DoDDS (2400)	*Stateside* (16300)	DoDDS (2700)	*Stateside*	DoDDS
Marijuana/Hashish	44.3	45.9	36.3	28.1sss	−8.0sss	17.8sss
Inhalants[1]	4.5	7.0sss	6.9	9.7sss	+2.4sss	+2.7ss
Inhalants Adjusted[2]	6.6	9.0s	8.1	10.3s	+1.5ss	+1.3
Amyl/Butyl Nitrites[3]	3.6	3.2	2.6	2.7	−1.0	−0.5
Hallucinogens	8.1	6.9	6.4	3.0sss	−1.7ss	−3.9sss
Hallucinogens Adjusted[4]	9.3	7.0	6.7	3.1sss	−2.6sss	−3.9sss
LSD	6.1	5.7	5.2	2.5sss	−0.9	−3.2sss
PCP[3]	2.2	0.4ss	1.3	1.1	−0.9s	+0.7
Cocaine	11.5	7.0sss	10.3	4.1sss	−1.2	−2.9sss
"Crack"[7]	NA	NA	4.0	1.6sss	NA	NA
Heroin	0.6	0.8	0.5	0.6	−0.1	−0.2
Other opiates[5]	5.3	8.1sss	5.3	5.4	0.0	−2.7sss
Stimulants Adjusted[5–6]	20.3	15.8sss	12.2	9.1sss	−8.1sss	−6.7sss
Sedatives[5]	9.1	9.5	4.1	4.9	−5.0sss	−4.6sss
Barbiturates[5]	5.5	7.8sss	3.6	4.3	−1.9sss	−3.5sss
Methaqualone[5]	6.8	3.9sss	1.5	1.8	−5.3sss	−2.1sss
Tranquilizers[5]	7.0	9.1ss	5.5	5.7	−1.5ss	−3.4sss
Alcohol	86.8	92.7sss	85.7	90.4sss	−1.1	−2.3ss
Cigarettes	NA	NA	NA	NA	NA	NA

NOTES: Significance of difference between the two samples: *s*=.05, *ss*=.01, *sss*=.001. In the pair of columns for each year, the significance test is based on the comparison between DoDDS and Stateside. In the columns showing the 1982–1987 change, the significance test is based on the amount of change within each of these populations. NA indicates data not available.

[1]Data based on four questionnaire forms. N is four-fifths of N indicated.
[2]Adjusted for underreporting of amyl and butyl nitrites (see text).
[3]Data based on a single questionnaire form. N is one-fifth of N indicated.
[4]Adjusted for underreporting of PCP (see text).
[5]Only drug use which was not under a doctor's orders is included here.
[6]Based on the data from the revised question, which attempts to exclude the inappropriate reporting of non-prescription stimulants.
[7]Data based on two questionnaire forms. N is two-fifths of N indicated.

Table 9
Trends in Thirty-Day Prevalence of Sixteen Types of Drugs
DoDDS and Stateside, Classes of 1982 and 1987

	Percent who used in last thirty days					
	1982		1987		Change from 1982-1987	
Approx. N =	*Stateside* (17700)	DoDDS (2400)	*Stateside* (16300)	DoDDS (2700)	*Stateside*	DoDDS
Marijuana/Hashish	28.5	27.0	21.0	13.9sss	−7.5sss	−13.1sss
Inhalants[1]	1.5	2.1	2.8	3.6	+1.3sss	+1.5ss
Inhalants Adjusted[2]	2.5	2.8	3.5	3.8	+1.0ss	+1.0
Amyl/Butyl Nitrites[3]	1.1	1.6	1.3	1.1	+0.2	−0.5
Hallucinogens	3.4	2.6	2.5	1.1sss	−0.9ss	−1.5sss
Hallucinogens Adjusted[4]	4.3	2.7	2.8	1.3ss	−1.5sss	−1.4s
LSD	2.4	2.0	1.8	0.7sss	−0.6s	−1.3sss
PCP[3]	1.0	0.1s	0.6	0.1	−0.4	0.0
Cocaine	5.0	2.2sss	4.3	1.3sss	−0.7s	−0.9s
"Crack"[7]	NA	NA	1.5	0.3ss	NA	NA
Heroin	0.2	0.3	0.2	0.2	0.0	−0.1
Other opiates[5]	1.8	3.0sss	1.8	2.4s	0.0	−0.6
Stimulants Adjusted[5-6]	10.7	6.6sss	5.2	4.0s	−5.5sss	−2.6sss
Sedatives[5]	3.4	3.0	1.7	2.1	−1.7sss	−0.9s
Barbiturates[5]	2.0	2.2	1.4	1.8	−0.6s	−0.4
Methaqualone[5]	2.4	1.1sss	0.6	0.7	−1.8sss	−0.4
Tranquilizers[5]	2.4	3.0	2.0	2.0	−0.4	−1.0s
Alcohol	69.7	78.5sss	66.4	74.5sss	−3.3s	−4.0ss
Cigarettes	30.0	36.1sss	29.4	33.8sss	−0.6	−2.3

NOTES: Significance of difference between the two samples: *s*=.05, *ss*=.01, *sss*=.001. In the pair of columns for each year, the significance test is based on the comparison between DoDDS and Stateside. In the columns showing the 1982–1987 change, the significance test is based on the amount of change within each of these populations. NA indicates data not available.

[1]Data based on four questionnaire forms. N is four-fifths of N indicated.
[2]Adjusted for underreporting of amyl and butyl nitrites (see text).
[3]Data based on a single questionnaire form. N is one-fifth of N indicated.
[4]Adjusted for underreporting of PCP (see text).
[5]Only drug use which was not under a doctor's orders is included here.
[6]Based on the data from the revised question, which attempts to exclude the inappropriate reporting of non-prescription stimulants.
[7]Data based on two questionnaire forms. N is two-fifths of N indicated.

Table 10
Trends in Thirty Day Prevalence of Daily Use of Sixteen Types of Drugs
DoDDS and Stateside, Classes of 1982 and 1987

	Percent who used daily in last thirty days					
	1982		1987		Change from 1982-1987	
Approx. N =	*Stateside* (17700)	DoDDS (2400)	*Stateside* (16300)	DoDDS (2700)	*Stateside*	DoDDS
Marijuana/Hashish	6.3	4.0sss	3.3	1.8sss	−3.0sss	−2.2sss
Inhalants[1]	0.1	0.1	0.1	0.3	0.0	+0.2
Inhalants Adjusted[2]	0.2	0.1	0.4	0.4	+0.2	+0.3
Amyl/Butyl Nitrites[3]	0.0	0.1	0.3	0.1	+0.3s	0.0
Hallucinogens	0.1	0.1	0.1	0.0	0.0	−0.1
Hallucinogens Adjusted[4]	0.2	0.1	0.2	0.1	0.0	0.0
LSD	0.0	0.0	0.1	0.0	+0.1	0.0
PCP[3]	0.1	0.1	0.3	0.1	+0.2	0.0
Cocaine	0.2	0.0	0.3	0.2	+0.1	+0.2s
"Crack"[7]	NA	NA	0.2	0.1	NA	NA
Heroin	0.0	0.1	0.0	0.1s	0.0	0.0
Other opiates[5]	0.1	0.1	0.1	0.4ss	0.0	+0.3s
Stimulants Adjusted[5-6]	0.7	0.3	0.3	0.2	−0.4ss	−0.1
Sedatives[5]	0.2	0.0	0.1	0.1	−0.1	+0.1
Barbiturates[5]	0.1	0.0	0.1	0.1	0.0	+0.1
Methaqualone[5]	0.1	0.0	0.0	0.0	−0.1	0.0
Tranquilizers[5]	0.1	0.1	0.1	0.0	0.0	−0.1
Alcohol	5.7	8.5sss	4.8	8.0sss	−0.9	−0.5
Cigarettes	21.1	25.9sss	18.7	22.9sss	−2.4ss	−3.0s

NOTES: Significance of difference between the two samples: s=.05, ss=.01, sss=.001. In the pair of columns for each year, the significance test is based on the comparison between DoDDS and Stateside. In the columns showing the 1982-1987 change, the significance test is based on the amount of change within each of these populations. NA indicates data not available.

[1]Data based on four questionnaire forms. N is four-fifths of N indicated.
[2]Adjusted for underreporting of amyl and butyl nitrites (see text).
[3]Data based on a single questionnaire form. N is one-fifth of N indicated.
[4]Adjusted for underreporting of PCP (see text).
[5]Only drug use which was not under a doctor's orders is included here.
[6]Based on the data from the revised question, which attempts to exclude the inappropriate reporting of non-prescription stimulants.
[7]Data based on two questionnaire forms. N is two-fifths of N indicated.

- Between 1982 and 1987 there was a significant drop in **tranquilizer** use for both groups. While close to 6% of both DoDDS and stateside seniors in 1987 reported tranquilizer use in the past year, significantly more DoDDS seniors reported use of tranquilizers in 1982 (9% vs. 7% among stateside seniors).

- The use of **opiates other than heroin** was significantly higher among DoDDS than stateside seniors in 1982. However, the annual prevalence rates for the opiates dropped by a third to 5.4% among DoDDS seniors between 1982 and 1987, while there was no change among stateside seniors. Therefore, in 1987 DoDDS and stateside seniors had the same annual prevalence rates of opiate use. However, DoDDS seniors continued to use this class of drugs at more frequent levels than stateside seniors. In particular, the daily use of the opiates other than heroin increased significantly among DoDDS seniors from 0.1% to 0.4% between 1982 and 1987, while remaining unchanged among stateside seniors at 0.1%.

- **Heroin** usage levels remained virtually unchanged across time at very similar rates in both DoDDs and stateside senior classes at the annual, 30-day, and daily-use prevalence rates. However, there was a significant decrease (at the .05 level) in lifetime prevalence among DoDDS seniors from 2.4% in 1982 to 1.5% in 1987. Lifetime prevalence rates among stateside seniors remained unchanged over the time interval at 1.2%.

- While a higher proportion of DoDDS seniors use **alcohol** than stateside seniors, there were significant drops in the lifetime, annual and thirty day prevalence rates of alcohol use among DoDDS seniors between 1982 and 1987. (There were smaller decreases observed among the stateside seniors.) However, the more problematic pattern of **daily drinking** shifted less; from 8.5% to 8.0% among DoDDS seniors between 1982 and 1987, and from 5.7% to 4.8% among stateside seniors. Further, there was only a little change between 1982 and 1987 in the number of DoDDS and stateside seniors who reported having **5 or more drinks** in a row on one or more occasions in the past two weeks; from 42% to 39% of DoDDS and from 40% to 38% of stateside seniors between 1982 and 1987.

- There was some decrease in **cigarette** smoking among both groups of seniors between 1982 and 1987. Fourteen percent of stateside seniors smoked half-a-pack of cigarettes or more per day in 1982 compared to 11% in 1987; the corresponding decrease among DoDDS seniors was from 17% to 15%.

Regional Differences in Trends Among DoDDS Seniors: 1982-1987

- The proportion of seniors using **any illicit drug** during the year dropped by a third or more in all of the five regions of the DoDDS except the Pacific region, where it dropped by about one fifth. The sharp decline in marijuana use among DoDDS seniors was responsible for a large part of this change, in that the use of **illicit drugs other than marijuana** decreased significantly only in the Atlantic and Germany regions.

- Lifetime, annual and monthly prevalence rates of **marijuana** use decreased substantially in the five DoDDS regions between 1982 and 1987. The drop in daily usage rates also achieved statistical significance in all regions except Panama.

- The trends for the other individual drugs within the five DoDDS regions are more varied.

- It was noted earlier that **inhalants** was the one class of drugs that increased among DoDDS seniors between 1982 and 1987. Although none of the changes reach statistical significance, inhalant use (adjusted) in the past year dropped in the Atlantic and Panama regions, while increasing in the Germany, Mediterranean and Pacific regions. The varying trends resulted in the overall increase of the inhalants among DoDDS seniors. By 1987 annual prevalence rates were at a similar level in four of the five regions, while inhalant use in Panama was only about one-third of that found elsewhere. (See Table 12.) The use of the specific class of inhalants, the **nitrites**, increased in Panama between 1982 and 1987, while falling in all other regions except the Pacific.

- **Hallucinogen** use (adjusted) decreased in all five DoDDS regions between 1982 and 1987, primarily due to the large drops in LSD use reported by seniors between 1982 and 1987. The past year use of PCP increased in Germany and the Pacific, but dropped in the remaining DoDDS regions.

- The annual prevalence of **cocaine** use dropped by one-half between 1982 in 1987 in the Atlantic and Germany regions. The decreases were not quite as large in the Panama and Mediterranean regions, and usage rates actually increased in the Pacific region. (No trend data is available on "crack" cocaine, since it was not included in the 1982 surveys of seniors.)

- Between 1982 and 1987, **stimulant** use was about halved in all regions except the Pacific, where the proportion using stimulants in the past year actually increased slightly. The Pacific region had by far the highest rate of stimulant use among any of the DoDDS regions in 1987, although this was not the case in 1982.

- Past year **sedative** use dropped sharply in all but the Pacific region between 1982 and 1987. In the Atlantic, Germany and Panama regions, past year use of both the subclasses of sedatives--**barbiturates** and **methaqualone**--each decreased significantly. In the Mediterranean region, while the use of both of the subclasses decreased, only the drop in methaqualone use was statistically significant (at the .05 level). The decrease in methaqualone use in the Pacific region was offset by an increase in the use of barbiturates, leaving sedative use in this region virtually unchanged since 1982.

- **Tranquilizers**, which had very similar annual prevalence rates in all DoDDS regions in 1982, decreased in each of the five regions between 1982 and 1987, significantly in the Germany and Panama regions. Past month use of tranquilizers dropped significantly among seniors in the Panama region.

Table 11
Trends in Lifetime Prevalence of Sixteen Types of Drugs by Region
DoDDS Classes of 1982 and 1987
(Entries Are Percentages)

	DoDDS Region														
	Atlantic			Germany			Mediterranean			Pacific			Panama		
Approx. N	1982 (400)	1987 (490)	'82–'87 change	1982 (950)	1987 (1100)	'82–'87 change	1982 (250)	1987 (250)	'82–'87 change	1982 (450)	1987 (590)	'82–'87 change	1982 (350)	1987 (260)	'82–'87 change
Marijuana/Hashish	56.4	41.6	−14.8sss	59.8	45.0	−14.8sss	64.3	45.8	−18.5sss	53.8	44.6	−9.2ss	46.9	32.8	−14.1sss
Inhalants[1]	14.4	23.2	+8.8ss	18.2	27.4	+9.2sss	13.2	19.1	+5.9	15.6	24.9	+9.3ss	17.2	11.0	−6.2
Inhalants Adjusted[2]	19.6	24.8	+5.2	24.7	28.7	+4.0	22.0	21.0	−1.0	16.2	26.3	+10.1s	18.9	11.0	−7.9
Amyl/Butyl Nitrites[3]	9.6	5.4	−4.2	9.1	5.2	−3.9	10.4	3.8	−6.6	3.4	7.6	+4.2	1.5	4.2	+2.7
Hallucinogens	13.4	6.5	−6.9sss	14.0	8.6	−5.4sss	11.4	7.3	−4.1	9.6	7.8	−1.8	4.7	2.3	−2.4
Hallucinogens Adjusted[4]	15.8	7.4	−8.4sss	16.6	8.6	−8.0sss	14.0	7.3	−6.7	9.6	7.8	−1.8	4.7	2.3	−2.4
LSD	10.3	5.7	−4.6s	11.9	7.5	−4.4ss	9.8	6.9	−2.9	7.4	6.1	−1.3	2.9	1.2	−1.7
PCP[3]	4.9	2.2	−2.7	7.1	2.4	−4.7s	4.1	1.9	−2.2	2.2	3.4	+1.2	0.0	0.0	0.0
Cocaine	9.6	7.5	−2.1	14.3	8.4	−5.9sss	12.4	12.0	−0.4	9.2	9.8	+0.6	13.6	14.0	+0.4
"Crack"[7]	NA	2.6	NA	NA	3.3	NA	NA	6.0	NA	NA	3.1	NA	NA	3.1	NA
Heroin	3.1	0.8	−2.3s	2.8	1.7	−1.1	2.8	2.7	−0.1	1.1	1.2	+0.1	0.6	0.4	−0.2
Other opiates[5]	11.6	10.1	−1.5	15.5	9.3	−6.2sss	12.9	11.3	−1.6	15.0	16.6	+1.6	6.3	3.9	−2.4
Stimulants Adjusted[5–6]	25.9	18.6	−7.3ss	26.3	19.7	−6.6sss	21.8	13.5	−8.3s	22.5	22.9	+0.4	12.6	11.8	−0.8
Sedatives[5]	16.6	10.1	−6.5ss	17.8	9.5	−8.3sss	19.8	8.5	−11.3sss	15.7	14.5	−1.2	13.0	7.3	−5.7s
Barbiturates[5]	14.9	7.9	−7.0ss	14.5	8.5	−6.0sss	14.0	6.2	−7.8ss	12.0	14.0	+2.0	11.0	5.7	−5.3s
Methaqualone[5]	8.6	5.6	−3.0	9.0	4.8	−4.2sss	11.2	4.3	−6.9ss	8.3	6.0	−2.3	6.8	1.9	−4.9ss
Tranquilizers[5]	17.5	13.8	−3.7	17.9	10.5	−7.4sss	18.6	12.7	−5.9	16.8	13.1	−3.7	20.9	13.0	−7.9s
Alcohol	97.1	97.1	0.0	96.9	95.3	−1.6	99.6	96.0	−3.6ss	92.9	93.3	+0.4	94.9	94.8	−0.1
Cigarettes	75.1	69.0	−6.1s	75.9	69.6	−6.3ss	83.5	75.1	−8.4s	72.9	70.2	−2.7	74.7	64.5	−10.2ss

NOTE: Significance of difference between the two samples: s=.05, ss=.01, sss=.001. NA indicates data not available.
[1]Data based on four questionnaire forms. N is four-fifths of N indicated.
[2]Adjusted for underreporting of amyl and butyl nitrites (see text).
[3]Data based on a single questionnaire form. N is one-fifth of N indicated.
[4]Adjusted for underreporting of PCP (see text).
[5]Only drug use which was not under a doctor's orders is included here.
[6]Based on the data from the revised question, which attempts to exclude the inappropriate reporting of non-prescription stimulants.
[7]Data based on two questionnaire forms. N is two-fifths of N indicated.

Table 12
Trends in Annual Prevalence of Sixteen Types of Drugs by Region
DoDDS Classes of 1982 and 1987
(Entries Are Percentages)

	DoDDS Region														
	Atlantic			Germany			Mediterranean			Pacific			Panama		
Approx. N	1982 (400)	1987 (490)	'82–'87 change	1982 (950)	1987 (1100)	'82–'87 change	1982 (250)	1987 (250)	'82–'87 change	1982 (450)	1987 (590)	'82–'87 change	1982 (350)	1987 (260)	'82–'87 change
Marijuana/Hashish	40.6	23.5	−17.1sss	50.1	30.4	−19.7sss	53.2	33.3	−19.9sss	38.7	25.1	−13.6sss	33.0	19.4	−13.6sss
Inhalants[1]	6.8	8.8	+2.0	7.5	11.0	+3.5ss	5.9	5.8	−0.1	6.4	9.9	+3.5	6.2	3.8	−2.4
Inhalants Adjusted[2]	11.2	9.6	−1.6	8.9	11.7	+2.8	7.8	11.6	+3.8	9.4	9.9	+0.5	8.7	3.8	−4.9
Amyl/Butyl Nitrites[3]	4.8	3.2	−1.6	3.6	2.4	−1.2	4.2	1.9	−2.3	1.1	4.2	+3.1	1.5	2.1	+0.6
Hallucinogens	8.1	1.6	−6.5sss	8.2	3.6	−4.6sss	7.1	2.7	−4.4s	4.0	3.2	−0.8	1.5	0.0	−1.5s
Hallucinogens Adjusted[4]	9.2	3.3	−5.9s	8.2	3.6	−4.6ss	7.1	2.7	−4.4	4.0	3.2	−0.8	1.5	0.0	−1.5
LSD	6.0	1.2	−4.8sss	6.8	3.2	−3.6sss	6.8	2.7	−4.1s	3.6	1.7	−1.9	1.2	0.0	−1.2
PCP[3]	2.4	1.1	−1.3	0.0	1.4	+1.4	2.1	0.0	−2.1	0.0	0.8	+0.8	0.0	0.0	0.0
Cocaine	5.0	2.2	−2.8s	7.8	3.8	−4.0sss	6.4	5.0	−1.4	2.0	3.8	+1.8	11.9	9.7	−2.2
"Crack"[7]	NA	1.1	NA	NA	1.4	NA	NA	4.0	NA	NA	1.3	NA	NA	2.1	NA
Heroin	0.9	0.2	−0.7	1.0	0.7	−0.3	1.2	1.2	0.0	0.4	0.2	−0.2	0.0	0.0	0.0
Other opiates[5]	6.6	4.7	−1.9	9.2	4.2	−5.0sss	6.0	8.6	+2.6	9.6	10.7	+1.1	3.0	1.2	−1.8
Stimulants Adjusted[5-6]	16.1	7.3	−8.8sss	18.4	9.3	−9.1sss	14.7	6.9	−7.8ss	12.1	13.5	+1.4	7.7	3.1	−4.6s
Sedatives[5]	8.1	2.8	−5.3sss	10.6	4.7	−5.9sss	9.2	4.2	−5.0s	8.0	8.4	+0.4	7.7	2.7	−5.0ss
Barbiturates[5]	6.7	2.4	−4.3ss	8.9	4.3	−4.6sss	6.0	2.7	−3.3	6.3	7.8	+1.5	6.2	2.3	−3.9s
Methaqualone[5]	4.1	1.2	−2.9ss	3.7	1.8	−1.9ss	6.4	2.3	−4.1s	3.6	2.2	−1.4	3.6	0.8	−2.8s
Tranquilizers[5]	8.8	5.7	−3.1	9.5	5.4	−4.1sss	9.3	6.2	−3.1	8.5	7.7	−0.8	7.8	2.7	−5.1ss
Alcohol	95.0	94.2	−0.8	92.5	90.1	−2.4	98.8	93.2	−5.6ss	89.6	88.3	−1.3	90.4	88.0	−2.4

NOTE: Significance of difference between the two samples: *s*=.05, *ss*=.01, *sss*=.001. NA indicates data not available.
[1]Data based on four questionnaire forms. N is four-fifths of N indicated.
[2]Adjusted for underreporting of amyl and butyl nitrites (see text).
[3]Data based on a single questionnaire form. N is one-fifth of N indicated.
[4]Adjusted for underreporting of PCP (see text).
[5]Only drug use which was not under a doctor's orders is included here.
[6]Based on the data from the revised question, which attempts to exclude the inappropriate reporting of non-prescription stimulants.
[7]Data based on two questionnaire forms. N is two-fifths of N indicated.

Table 13
Trends in Thirty-Day Prevalence of Sixteen Types of Drugs by Region
DoDDS Classes of 1982 and 1987
(Entries Are Percentages)

	DoDDS Region														
	Atlantic			Germany			Mediterranean			Pacific			Panama		
Approx. N	1982 (400)	1987 (490)	'82–'87 change	1982 (950)	1987 (1100)	'82–'87 change	1982 (250)	1987 (250)	'82–'87 change	1982 (450)	1987 (590)	'82–'87 change	1982 (350)	1987 (260)	'82–'87 change
Marijuana/Hashish	21.7	9.1	−12.6sss	31.3	16.0	−15.3sss	37.1	17.6	−19.5sss	15.3	11.0	−4.3s	17.3	8.6	−8.7ss
Inhalants[1]	2.6	3.3	+0.7	2.0	4.0	+2.0s	2.9	2.9	0.0	2.8	3.6	+0.8	0.7	1.4	+0.7
Inhalants Adjusted[2]	3.4	4.4	+1.0	2.6	4.2	+1.6	5.6	2.9	−2.7	2.8	3.6	+0.8	1.4	1.4	0.0
Amyl/Butyl Nitrites[3]	1.2	1.1	−0.1	2.0	1.4	−0.6	2.0	0.0	−2.0	0.0	0.8	+0.8	1.5	0.0	−1.5
Hallucinogens	2.6	0.4	−2.2ss	3.4	1.4	−2.0ss	1.6	0.8	−0.8	1.6	1.2	−0.4	0.3	0.0	−0.3
Hallucinogens Adjusted[4]	2.6	0.4	−2.2	3.4	1.4	−2.0s	1.6	0.8	−0.8	1.6	1.2	−0.4	0.3	0.0	−0.3
LSD	1.7	0.4	−1.3s	2.7	1.0	−1.7ss	1.6	0.8	−0.8	0.7	0.3	−0.4	0.3	0.0	−0.3
PCP[3]	0.0	1.1	+1.1	0.0	0.0	0.0	2.0	0.0	−2.0	0.0	0.0	0.0	0.0	0.0	0.0
Cocaine	0.7	0.6	−0.1	2.1	1.3	−0.8	2.4	2.3	−0.1	0.7	0.3	−0.4	6.2	3.9	−2.3
"Crack"[7]	NA	0.5	NA	NA	0.5	NA	NA	0.0	NA	NA	0.0	NA	NA	0.0	NA
Heroin	0.2	0.2	0.0	0.3	0.3	0.0	0.8	0.4	−0.4	0.2	0.0	−0.2	0.0	0.0	0.0
Other opiates[5]	3.1	1.8	−1.3	3.4	2.3	−1.1	2.0	1.6	−0.4	3.1	4.8	+1.7	1.2	0.0	−1.2
Stimulants Adjusted[5–6]	4.5	1.6	−2.9s	8.1	4.7	−3.4ss	5.6	2.3	−3.3	4.2	5.8	+1.6	3.4	0.0	−3.4ss
Sedatives[5]	2.6	1.2	−1.4	3.3	2.2	−1.1	4.0	1.9	−2.1	2.5	3.2	+0.7	2.1	0.4	−1.7
Barbiturates[5]	1.9	1.0	−0.9	2.5	1.9	−0.6	2.4	1.2	−1.2	2.0	2.9	+0.9	1.5	0.4	−1.1
Methaqualone[5]	1.0	0.4	−0.6	1.1	0.9	−0.2	2.0	0.8	−1.2	0.9	0.5	−0.4	0.9	0.0	−0.9
Tranquilizers[5]	2.4	1.4	−1.0	3.2	2.0	−1.2	2.4	1.6	−0.8	2.7	3.4	+0.7	3.3	0.4	−2.9s
Alcohol	84.3	82.2	−2.1	79.0	73.9	−5.1ss	89.5	80.0	−9.5ss	67.4	69.6	+2.2	74.4	69.4	−5.0
Cigarettes	36.4	31.4	−5.0	37.;	34.1	−3.0	46.1	44.7	−1.4	28.2	34.9	+6.7s	32.9	22.4	−10.5ss

NOTE: Significance of difference between the two samples: s = .05, ss = .01, sss = .001. NA indicates data not available.
[1]Data based on four questionnaire forms. N is four-fifths of N indicated.
[2]Adjusted for underreporting of amyl and butyl nitrites (see text).
[3]Data based on a single questionnaire form. N is one-fifth of N indicated.
[4]Adjusted for underreporting of PCP (see text).
[5]Only drug use which was not under a doctor's orders is included here.
[6]Based on the data from the revised question, which attempts to exclude the inappropriate reporting of non-prescription stimulants.
[7]Data based on two questionnaire forms. N is two-fifths of N indicated.

Table 14
Trends in Thirty-Day Prevalence of Daily Use of Sixteen Types of Drugs by Region
DoDDS Classes of 1982 and 1987
(Entries Are Percentages)

	DoDDS Region														
	Atlantic			Germany			Mediterranean			Pacific			Panama		
Approx. N	1982 (400)	1987 (490)	'82–'87 change	1982 (950)	1987 (1100)	'82–'87 change	1982 (250)	1987 (250)	'82–'87 change	1982 (450)	1987 (590)	'82–'87 change	1982 (350)	1987 (260)	'82–'87 change
Marijuana/Hashish	2.7	0.2	−2.5ss	4.8	2.4	−2.4ss	7.7	3.5	−4.2s	2.1	0.3	−1.8ss	1.2	0.8	−0.4
Inhalants[1]	0.0	0.0	0.0	0.1	0.3	+0.2	0.0	0.0	0.0	0.0	0.6	+0.6	0.0	0.0	0.0
Inhalants Adjusted[2]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Amyl/Butyl Nitrites[3]	0.0	1.1	+1.1	0.0	0.0	0.0	2.0	0.0	−2.0	0.0	0.0	0.0	0.0	0.0	0.0
Hallucinogens	0.0	0.0	0.0	0.1	0.0	−0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Hallucinogens Adjusted[2]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
LSD	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PCP[3]	0.0	1.1	+1.1	0.0	0.0	0.0	2.0	0.0	−2.0	0.0	0.0	0.0	0.0	0.0	0.0
Cocaine	0.0	0.0	0.0	0.0	0.2	+0.2	0.0	0.4	+0.4	0.0	0.2	+0.2	0.3	0.0	−0.3
"Crack"[7]	NA	0.5	NA	NA	0.0	NA	NA	0.0	NA	NA	0.0	NA	NA	0.0	NA
Heroin	0.0	0.0	0.0	0.1	0.2	+0.1	0.0	0.4	+0.4	0.0	0.0	0.0	0.0	0.0	0.0
Other opiates[5]	0.0	0.0	0.0	0.1	0.3	+0.2	0.0	0.0	0.0	0.2	1.7	+1.5s	0.0	0.0	0.0
Stimulants Adjusted[5–6]	0.0	0.0	0.0	0.4	0.2	−0.2	0.0	0.0	0.0	0.8	0.5	−0.3	0.0	0.0	0.0
Sedatives[5]	0.2	0.0	−0.2	0.0	0.1	+0.1	0.0	0.4	+0.4	0.0	0.2	+0.2	0.0	0.0	0.0
Barbiturates[5]	0.2	0.0	−0.2	0.0	0.1	+0.1	0.0	0.4	+0.4	0.0	0.2	+0.2	0.0	0.0	0.0
Methaqualone[5]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Tranquilizers[5]	0.0	0.0	0.0	0.1	0.0	−0.1	0.0	0.0	0.0	0.0	0.2	+0.2	0.0	0.0	0.0
Alcohol	5.9	7.0	+1.1	9.0	9.0	0.0	15.4	7.5	−7.9ss	4.2	6.7	+2.5	9.4	5.6	−3.8
Cigarettes	26.8	21.8	−5.0	27.3	23.2	−4.1s	31.5	33.6	+2.1	17.6	23.1	+5.5s	23.9	12.2	−11.7sss

NOTE: Significance of difference between the two samples: *s*=.05, *ss*=.01, *sss*=.001. NA indicates data not available.
[1]Data based on four questionnaire forms. N is four-fifths of N indicated.
[2]Adjusted for underreporting of amyl and butyl nitrites (see text).
[3]Data based on a single questionnaire form. N is one-fifth of N indicated.
[4]Adjusted for underreporting of PCP (see text).
[5]Only drug use which was not under a doctor's orders is included here.
[6]Based on the data from the revised question, which attempts to exclude the inappropriate reporting of non-prescription stimulants.
[7]Data based on two questionnaire forms. N is two-fifths of N indicated.

- There is a great deal of variation in the trend lines between 1982 and 1987 of past year use of the **opiates other than heroin** among the five DoDDS regions. The only region that had a statistically significant change was Germany, with a sharp decrease in use (significant at the .001 level). The use of other opiates also decreased in Panama and the Atlantic regions, while increasing in the Mediterranean and Pacific regions. Daily use increased significantly in the Pacific region, as well.

- **Heroin use**, whose annual prevalence rates are the lowest of any of the drugs included in the surveys, did not change perceptibly in any of the regions.

USE AT EARLIER GRADE LEVELS

In two of the five questionnaire forms used in the study, respondents are asked to indicate the grade in which they were enrolled when they first tried each class of drugs. Table 15 gives the percent of the 1987 DoDDS seniors who first tried each drug at each of the earlier grade levels, and Table 16 gives the corresponding information for stateside seniors. Table 17 provides a succinct summary measure of early drug use--the percent using prior to 10th grade, for DoDDS and stateside seniors in both 1982 and 1987. (Note that 1982 seniors reporting retrospectively on use prior to 10th grade would be referring to use prior to 1980 and that 1987 seniors reporting retrospectively on use prior to 10th grade would be referring to use prior to 1985.)

INCIDENCE OF USE BY GRADE LEVEL

- The use of the licit drugs begins early; the majority (54%) of all DoDDS seniors reported that their initial experience with **alcohol** occurred prior to 10th grade. A surprisingly high percentage, just about one-third (32%), also reported that they first got "drunk" on alcohol prior to 10th grade. **Cigarette** smoking was begun prior to 10th grade by half of all DoDDS seniors (52%), while **daily smoking** had developed among one in seven (14%) by that time.

- Almost one in four of the 1987 DoDDS seniors (22.5%) reported using **marijuana** prior to 10th grade. Just about one in nine had used **stimulants** (10.9%) and one in ten had used **inhalants** (10.4%). Roughly one in twenty had used **tranquilizers** (5.1%) or **sedatives** (5.6%). Somewhat fewer had used **hallucinogens** (3.6%), **opiates other than heroin** (3.3%), **cocaine** (2.0%), and **heroin** (less than 1%).

- None of these statistics on use prior to 10th grade differed significantly between DoDDS and stateside seniors.

Proportion of Eventual Users Initiating Prior to 10th Grade -- Class of 1987

- For the majority of drug classes, roughly half (that is, between 40% and 60%) of the DoDDS seniors who eventually used the drug by the end of 12th grade had begun use prior to 10th grade. This is true for **marijuana** (52% of eventual users used prior to 10th grade), **inhalants** (unadjusted, 42%), **nitrites** specifically (56%), **hallucinogens** (47%), **LSD** (41%), **heroin** (47%), **stimulants** (57%), **sedatives** generally (55%), and **barbiturates** (52%) and **methaqualone** (54%) specifically, **tranquilizers** (44%), **alcohol** (56%), and **cigarettes** (on a daily basis, 50%).

- The major exception to this pattern is **cocaine**, which shows a tendency to be initiated later in high school; only 22% of eventual users initiated use prior to 10th grade.

Table 15

Grade of First Use for Sixteen Types of Drugs, DoDDS Class of 1987

(Entries are percentages)

Grade in which drug was first used:	Marijuana	Inhalants [a]	Amyl/Butyl Nitrites	Hallucinogens [a]	LSD	PCP	Cocaine	Heroin	Other Opiates	Stimulants [b] (adjusted)	Sedatives	Barbiturates	Methaqualone	Tranquilizers	Alcohol	Getting Drunk	Cigarettes	Cigarettes (daily)
6th	1.7	1.9	0.1	0.0	0.0	0.1	0.1	0.0	0.2	0.1	0.3	0.2	0.2	0.2	8.9	2.7	17.2	1.1
7-8th	8.8	3.0	1.1	0.9	0.1	0.8	0.1	0.0	1.3	3.8	1.2	0.9	0.7	1.8	20.1	9.9	21.7	6.5
9th	12.0	5.5	1.8	2.7	2.6	1.1	1.8	0.7	1.8	7.0	4.2	3.6	1.7	3.1	24.7	19.6	13.0	6.0
10th	9.5	4.6	0.6	2.4	2.4	0.1	3.0	0.3	2.2	4.9	3.8	3.6	1.3	2.9	18.4	17.6	8.8	6.1
11th	7.5	7.1	0.7	1.5	1.3	0.0	2.7	0.4	2.6	2.2	0.4	0.3	0.7	2.9	15.7	14.0	6.3	4.6
12th	4.2	2.8	1.2	0.2	0.2	0.1	1.3	0.0	2.2	1.1	0.3	0.3	0.2	0.8	7.5	10.3	2.7	1.3
Never used	56.3	75.2	94.6	92.3	93.4	97.7	90.9	98.5	89.7	80.9	89.9	91.1	95.2	88.3	4.7	26.0	30.3	74.5

NOTE: This question was asked in two of the five forms (N = approximately 1080), except for inhalants, PCP, and the nitrites which were asked about in only one form (N = approximately 540).

[a] Unadjusted for known underreporting of certain drugs. See text for details.

[b] Based on the data from the revised question, which attempts to exclude the inappropriate reporting of non-prescription stimulants.

Table 16

Grade of First Use for Sixteen Types of Drugs, Stateside Class of 1987

(Entries are percentages)

Grade in which drug was first used:	Marijuana	Inhalants [a]	Amyl/Butyl Nitrites	Hallucinogens [a]	LSD	PCP	Cocaine	Heroin	Other Opiates	Stimulants [b] (adjusted)	Sedatives	Barbiturates	Methaqualone	Tranquilizers	Alcohol	Getting Drunk	Cigarettes	Cigarettes (daily)
6th	2.9	2.5	0.3	0.3	0.1	0.3	0.2	0.1	0.6	0.6	0.4	0.4	0.1	0.4	8.8	3.3	21.0	1.6
7-8th	10.0	3.3	0.5	0.9	0.7	0.3	0.6	0.1	1.0	3.8	1.5	1.1	0.9	1.6	22.6	13.8	19.4	5.2
9th	12.3	3.6	0.9	1.9	1.5	0.6	2.2	0.3	2.0	5.7	2.5	2.5	1.0	2.6	24.5	20.3	10.9	5.3
10th	12.3	2.7	1.4	2.5	2.0	1.0	3.7	0.4	2.0	5.4	1.9	1.5	0.9	2.6	19.3	17.8	7.2	4.4
11th	8.2	3.4	0.9	3.3	2.6	0.6	5.4	0.2	2.5	3.8	1.5	1.3	0.7	2.4	11.5	11.9	5.7	3.3
12th	4.4	1.4	0.7	1.5	1.5	0.3	3.0	0.1	1.0	2.4	0.8	0.6	0.3	1.4	5.5	5.7	2.9	1.6
Never used	49.8	83.0	95.3	89.7	91.6	97.0	84.8	98.8	90.8	78.4	91.3	92.6	96.0	89.1	7.8	27.1	32.8	78.7

NOTE: This question was asked in two of the five forms (N = approximately 6000), except for inhalants, PCP, and the nitrites which were asked about in only one form (N = approximately 3000).

[a] Unadjusted for known underreporting of certain drugs. See text for details.

[b] Based on the data from the revised question, which attempts to exclude the inappropriate reporting of non-prescription stimulants.

- **Opiates other than heroin** is another exception with only a third (32%) of users having begun prior to 10th grade. Finally, **PCP** is noticeably different, with 91% of users reporting use prior to 10th grade; however, because these data are based on only one form, and because there are very few users of PCP, these figures must be considered very tentative.

- In general, the pattern of findings regarding percent of users who initiate use prior to 10th grade is similar among stateside seniors. As with the DoDDS seniors, **cocaine** use is initiated later among stateside users (20% used prior to 10th grade); **opiates other than heroin** are used prior to 10th grade by slightly more than a third (39%). One notable divergence in the pattern is that **hallucinogens** generally, and **LSD** specifically, also show a later pattern of initiation compared to DoDDS seniors; 30% of stateside seniors who used hallucinogens had initiated such use prior to 10th grade, and 27% of LSD users had done so, compared to 47% and 41%, respectively, among DoDDS users. (Among stateside seniors who had used PCP, 40% reported using prior to 10th grade; this reinforces the notion that the DoDDS data on PCP should be interpreted with caution.)

Trends in Use at Earlier Grade Levels

- It is possible to use the retrospective data on the grade of first use to determine the trends in the use of various drugs at earlier grade levels among DoDDS and stateside seniors between 1982 and 1987. We will continue to emphasize use prior to 10th grade, in order to simplify the comparisons.

- As can be seen in Table 17, ninth graders in 1984 (who became the seniors of 1987) in both the DoDDS and stateside systems would have had a highly similar profile of both licit and illicit drug use. There is not one statistically significant difference between them. But a comparison of ninth graders in 1979 (as deduced from the retrospective reports of the 1982 seniors) would have shown several differences, with DoDDS students having higher lifetime prevalence rates for **tranquilizers, barbiturates, heroin,** and **opiates other than heroin**. At the same time, they had a considerably lower prevalence rate for marijuana. Obviously, differential shifts between 1979 and 1984 tended to eliminate these differences. The use of tranquilizers, barbiturates, heroin, and other opiates fell in the DoDDS population, while all tended to rise slightly stateside. Marijuana use fell in both populations, but fell by twice as much stateside--nearly eliminating the prior differences.

Table 17
Trends in Use Prior to the Tenth Grade,
DoDDS and Stateside Classes of 1982 and 1987

Percent reporting first use prior to tenth grade

	1982		1987		Change from 1982-1987	
Approx. N =	*Stateside* (6400)	DoDDS (960)	*Stateside* (5600)	DoDDS (1080)	*Stateside*	DoDDS
Marijuana	35.0	27.4sss	25.2	22.5	−9.8sss	−4.9s
Inhalants (Unadj.)[a]	7.8	9.9	9.4	10.4	+1.6	+0.5
Nitrites[a]	4.4	2.7	1.7	3.0	−2.7sss	+0.3
Hallucinogens (Unadj.)	3.6	4.1	3.1	3.6	−0.5	−0.5
LSD	2.6	3.2	2.3	2.7	−0.3	−0.5
PCP[a]	2.4	1.8	1.2	2.0	−1.2ss	+0.2
Cocaine	2.4	3.0	3.0	2.0	+0.6	−1.0
Heroin	0.4	1.0s	0.5	0.7	+0.1	−0.3
Other Opiates	2.7	4.2s	3.6	3.3	+0.9s	−0.9
Stimulants	7.7	8.8	10.1	10.9	+2.4sss	+2.1
Sedatives	4.5	6.4s	4.4	5.6	−0.1	−0.8
Barbiturates	3.5	5.9sss	4.0	4.6	+0.5	−1.3
Methaqualone	2.4	2.8	2.0	2.6	−0.4	−0.2
Tranquilizers	4.2	8.0sss	4.6	5.1	+0.4	−2.9ss
Alcohol	55.7	59.4s	55.9	53.6	+0.2	−5.8ss
Getting drunk	NA	NA	37.4	32.2ss	NA	NA
Cigarettes (Any)	NA	NA	51.3	51.9	NA	NA
Cigarettes (Daily)	15.4	14.9	12.1	13.6	−3.3sss	−1.3

NOTES: Significance of difference between the two samples: s=.05, ss=.01, sss=.001. In the pair of columns for each year, the significance test is based on the comparison between DoDDS and Stateside. In the columns showing the 1982-1987 change, the significance test is based on the amount of change within each of these populations.

[a]Question asked in only one questionnaire form. N is one-half of N indicated.

DEGREE AND DURATION OF HIGHS

On one of the five questionnaire forms, seniors who report use of a drug during the prior twelve months are asked how long they usually stay high and how high they usually get on that drug. These measures were developed both to help characterize the drug-using event and to provide indirect measures of dose or quantity of drugs consumed.

- Figure L shows the proportion of 1987 DoDDS seniors who say that they usually get "not at all high," a little high," "moderately high," or "very high" when they use a given type of drug. Figure M presents these data for stateside seniors. The percentages are based on all respondents who report use of the given drug class in the previous twelve months, and therefore each bar cumulates to 100%. The ordering from left to right is based on the percentage of users of each drug who report that they usually get "very high." (The width of each bar is proportional to the percentage of all seniors having used the drug class in the previous year; this should serve as a reminder that even though a large percentage of users of a drug may get very high, they may represent only a small proportion of all seniors.)

- Because these questions occur on only one form and are asked only of respondents who have used the particular drug in the past twelve months, the number of seniors answering each question is quite small. While this is true to some extent for the stateside data, it is particularly true for the DoDDS data. For example, only 42 DoDDS respondents reported on the degree and duration of highs from amphetamine use, and for the other illicit drugs, the number ranges to as low as 9. Therefore, the DoDDS data should be viewed with considerable caution.

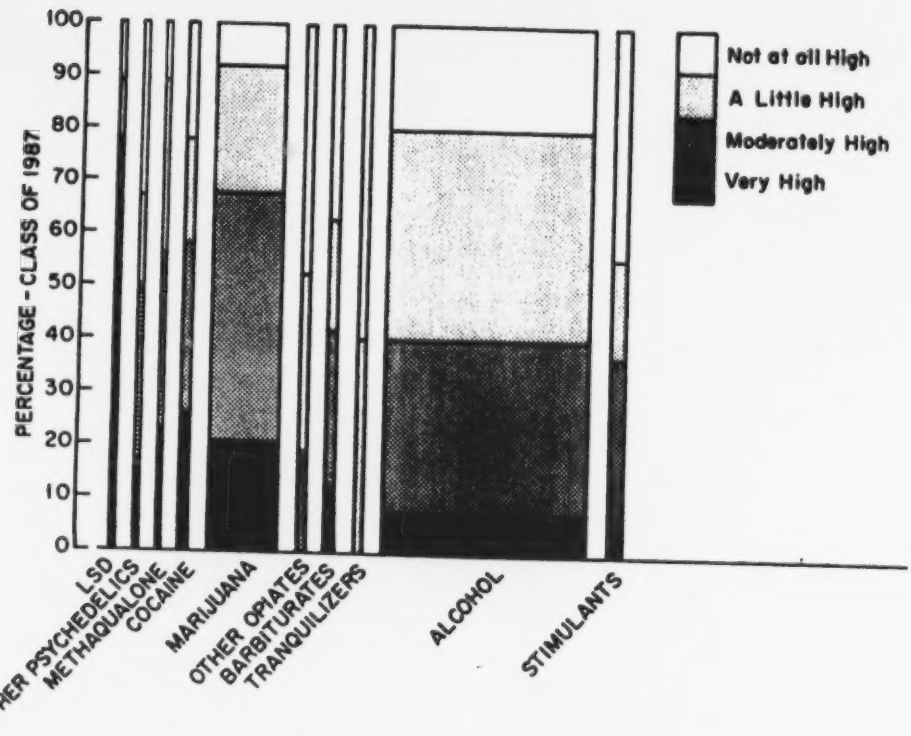
- The drugs which usually result in intense highs are **hallucinogens** (especially **LSD**), **heroin**, **cocaine** and **methaqualone**. (Heroin has been omitted from Figures L and M because of the small number of cases available.) There is a considerable difference between the DoDDS and stateside seniors in the highs resulting from the hallucinogens other than LSD, with 50% of the DoDDS in comparison to 98% of the stateside seniors saying they get moderately or very high after using these drugs. However, the DoDDS data are based on only 67 respondents.

- About two-thirds of DoDDS and stateside users say they usually get moderately high or very high when using **marijuana**.

- **Tranquilizers** are the drugs that seniors least often report getting high after using. **Barbiturates** and **amphetamines** are also less often used to get high, with a majority of DoDDS users (58% and 63%, respectively)

FIGURE L

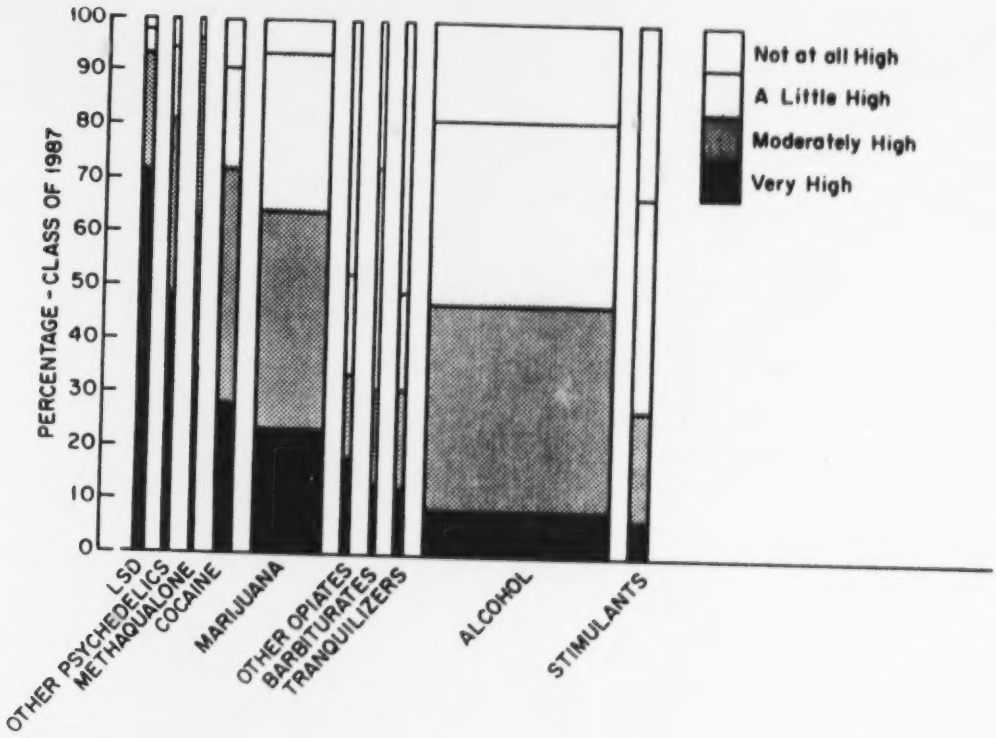
Degree of High Attained by Recent Users, DoDDS Class of 1987



NOTE: The width of each bar is proportionate to the number of seniors reporting any use of each drug in the prior 12 months. Heroin is not included in this figure because these particular questions are not asked of the small number of heroin users.

FIGURE M

Degree of High Attained by Recent Users, Stateside Class of 1987



NOTE: The width of each bar is proportionate to the number of seniors reporting any use of each drug in the prior 12 months. Heroin is not included in this figure because these particular questions are not asked of the small number of heroin users.

and stateside users (69% and 73%, respectively) .eporting they do not get high or get only a little high after taking these drugs.

- There is more variance between DoDDs and stateside seniors in the number of users reporting they get moderately or very high after using **opiates other than heroin**; 19% of the DoDDS seniors and 33% of the stateside seniors. However, once again the results among DoDDS seniors must again be interpreted with caution since they are based upon only 21 seniors who have reported use of opiates other than heroin in the past year.

- In contrast, we can have a great deal more faith in the degree of high attained from **alcohol** due to the high proportion of both DoDDS and stateside seniors who have used alcohol in the past year. Relatively few of the many seniors using alcohol (8% among both DoDDS and stateside seniors) say that they usually get very high when drinking, although many (DoDDS, 33%; stateside, 38%) usually get at least moderately high. However, for a given individual we would expect more variability from occasion to occasion in the degree of intoxication achieved with alcohol than with most of the other drugs. Therefore, many drinkers surely get very high at least sometimes, even if that is not "usually" the case.

- Figure N and Figure O present data on the duration of the highs usually obtained by users of each class of drugs for DoDDS seniors and stateside seniors, respectively. The drugs are arranged in the same order as for intensity of highs to permit an examination of the amount of correspondence between the degree and duration of highs.

- Generally, the drugs that result in the most intense highs also result in the longest lasting highs. For example, **LSD**, which is reported by both DoDDS and stateside seniors to result in the most intense highs, is also reported to result in the longest highs.

- **Cocaine** is an exception, in that the modal duration of the high from cocaine among both DoDDS and stateside seniors is 2 hours, although most users report they usually get moderately or very high from this drug.

- **Marijuana** is another exception in that the modal high is one to two hours among users in both DoDDS and stateside high schools, although two-thirds report usually getting moderately or very high after using marijuana.

- **Alcohol** ranks low on both dimensions; most DoDDS (68%) and stateside users (65%) report staying high for two hours or less and most (60% DoDDS, 53% stateside) report not getting at all high or getting a "little high."

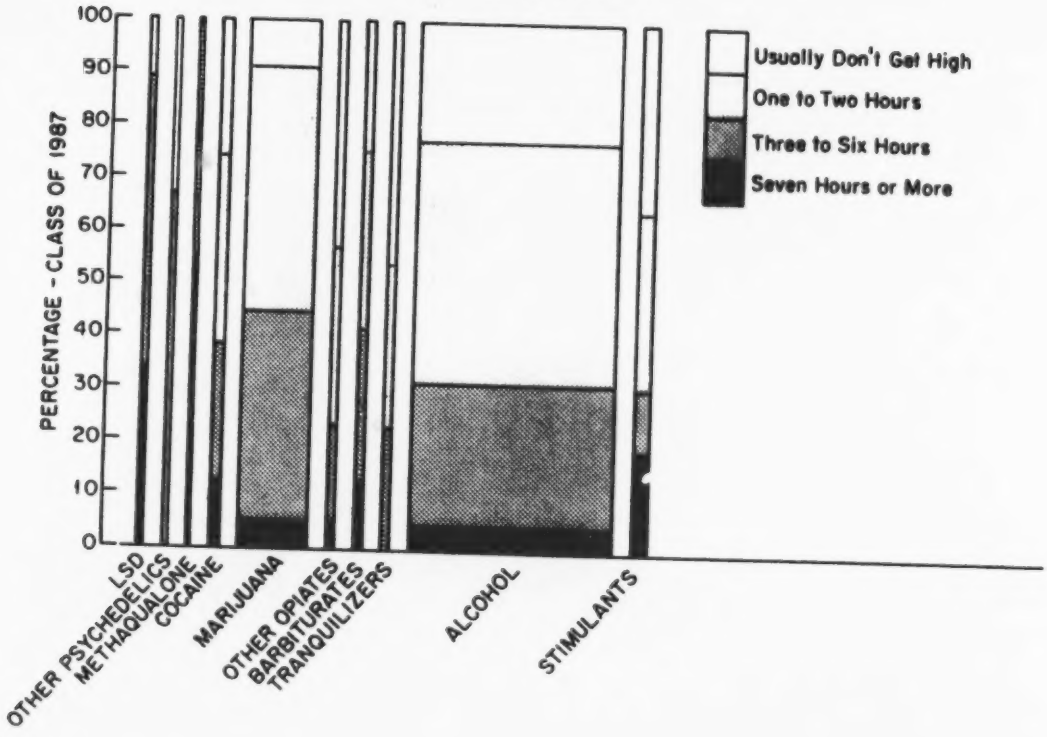
- In sum, the drugs vary considerably in duration of high with a modal high of seven or more hours for LSD; one to two hours for marijuana, cocaine, and alcohol; and users of tranquilizers and opiates other than heroin report they usually do not get high. (These data obviously do not address the qualitative differences in the experiences of being "high.") For most

of the other drugs, the modal length of high is two hours. While there are some differences between the DoDDS and stateside seniors in the degree and duration of highs usually experienced, in the main their profiles are quite similar on these dimensions.

- Due to the small number of cases and the resulting instability of the estimates, change scores in the degree and duration of highs between 1982 and 1987 were not computed for DoDDS seniors.

FIGURE N

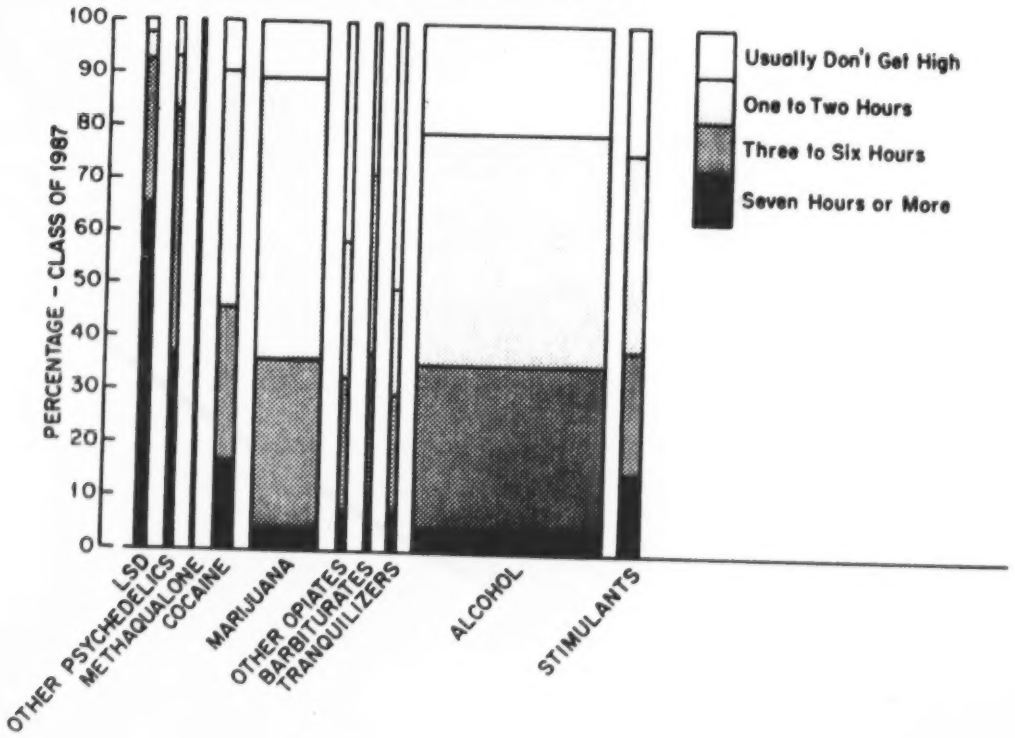
Duration of High Attained by Recent Users, DoDDS Class of 1987



NOTE: The width of each bar is proportionate to the number of seniors reporting any use of each drug in the prior 12 months. Heroin is not included in this figure because these particular questions are not asked of the small number of heroin users.

FIGURE O

Duration of High Attained by Recent Users, Stateside Class of 1987



NOTE: The width of each bar is proportionate to the number of seniors reporting any use of each drug in the prior 12 months. Heroin is not included in this figure because these particular questions are not asked of the small number of heroin users.

ATTITUDES AND BELIEFS ABOUT DRUGS

This section presents results for two sets of attitude and belief questions. One set concerns how harmful the students think various kinds of drug use would be for the user, and the second concerns how much they personally disapprove of various kinds of drug use. (The next section deals with the closely related topic of friends' attitudes about drugs, as the seniors perceive them.)

As the data in Tables 18 and 20 show, the overall percentages of seniors disapproving of use of various drugs, and the percentages believing their use to involve serious risk, both tend to parallel the percentages of actual users. Thus, for example, of the illicit drugs, marijuana is the most frequently used and the least likely to be seen as risky to use. This and many other such parallels suggest that the individuals who use a drug are less likely to disapprove of its use or to view its use as involving risk. A series of individual-level analyses confirms this conclusion: strong correlations exist between individual use of drugs and the various attitudes and beliefs about those drugs. Those seniors who use a given drug are also more likely to approve its use, see it as less dangerous, and report their friends at least somewhat more accepting of its use.

PERCEIVED HARMFULNESS OF DRUGS

- Substantial majorities of DoDDS and stateside seniors perceive regular use of any of the illicit drugs, other than marijuana, as entailing "great risk" of harm for the user (see Table 18). Ninety-two percent of DoDDS seniors (89% of stateside seniors) feel this way about **heroin**---the highest proportion for any of these drugs--while similarly high proportions of DoDDS (90%) and stateside seniors (89%) associate great risk with using **cocaine**. Regular use of **LSD** is also seen as involving great risk by 89% of the DoDDS and 84% of the stateside seniors. The proportions attributing great risk to **amphetamines** and **barbiturates** are all around 70%.

- A slightly larger proportion of the DoDDS students than stateside students associate great risk with regular **marijuana** use (79% vs. 74%).

- Regular use of **cigarettes** (i.e., one or more packs a day) is judged by the majority (68% DoDDS, 69% stateside) as entailing a great risk of harm for the user.

- Regular use of **alcohol** was more explicitly defined in several questions. Very few seniors (24% DoDDS, 26% stateside) associate much risk of harm with having one or two drinks almost daily. Somewhat higher percentages, 37% of the DoDDS and 42% of the stateside seniors, think there is great risk involved in having five or more drinks once or twice each weekend. Considerably more (69% DoDDS, 70% stateside) think the user takes a great risk in consuming four or five drinks nearly every day, as would be expected. There is little difference in the two groups of

Table 18
Perceived Harmfulness of Drugs,
DoDDS and Stateside Class of 1987

Q. How much do you think people risk harming themselves (physically or in other ways) if they...	Percent saying "great risk"[a]							
	Total			DoDDS Region				
	Stateside	DoDDS	DoDDS-*Stateside* Diff.	Atlantic	Germany	Mediterranean	Pacific	Panama
Try marijuana once or twice	18.4	20.2	+1.8	13.6	21.3	9.8	25.6	22.6
Smoke marijuana occasionally	30.4	30.3	−0.1	26.5	28.6	28.8	37.9	35.8
Smoke marijuana regularly	73.5	78.8	+5.3s	70.6	80.2	73.1	80.2	86.5
Try LSD once or twice	44.9	50.5	+5.6s	52.4	50.0	42.3	50.4	59.6
Try LSD regularly	83.8	88.9	+5.1ss	90.3	88.5	88.5	88.8	90.4
Try cocaine once or twice	47.9	48.7	+0.8	54.9	46.5	42.3	53.0	50.9
Take cocaine occasionally	66.8	69.0	+2.2	68.7	67.5	68.6	74.1	71.2
Take cocaine regularly	88.5	89.9	+1.4	93.1	89.4	86.3	89.7	92.2
Try heroin once or twice	53.6	55.6	+2.0	60.2	54.6	48.1	54.7	63.5
Take heroin occasionally	74.6	76.4	+1.8	77.7	75.3	80.8	73.5	84.6
Take heroin regularly	88.7	92.0	+3.3s	96.1	91.5	94.2	87.9	94.2
Try amphetamines once or twice	29.1	31.6	+2.5	35.0	31.8	21.2	35.3	25.5
Take amphetamines regularly	69.4	71.1	+1.7	78.6	70.5	65.4	68.4	73.1
Try a barbiturate once or twice	30.9	33.2	+2.3	34.0	34.1	25.0	35.0	28.8
Take barbiturates regularly	69.4	72.1	+2.7	72.5	72.4	71.2	72.2	69.2
Try one or two drinks of an alcoholic beverage (beer, wine, liquor)	6.2	4.0	−2.2	1.9	4.6	1.9	4.3	3.8
Take one or two drinks nearly every day	26.2	23.5	−2.7	20.4	25.3	9.8	27.4	19.2
Take four or five drinks nearly every day	69.7	69.4	−0.3	64.1	70.4	61.5	70.9	76.9
Have five or more drinks once or twice each weekend	41.9	36.9	−5.0s	33.0	36.4	30.8	46.1	34.6
Smoke one or more packs of cigarettes per day	68.6	67.6	−1.0	65.7	64.2	75.0	77.6	69.8
Approx. N =	(3260)	(540)		(100)	(220)	(50)	(120)	(50)

NOTE: Significance of difference between the two samples: *s*=.05, *ss*=.01, *sss*=.001.

[a]Answer alternatives were: (1) No risk, (2) Slight risk, (3) Moderate risk, (4) Great risk, and (5) Can't say, Drug unfamiliar.

seniors' attitudes about the harmfulness of alcohol use, except stateside seniors tend to judge having four or five drinks once or twice each weekend as involving somewhat more risk than DoDDS seniors.

- Compared with the above perceptions about the risks of regular use of each drug, many fewer respondents feel that a person runs a "great risk" of harm by simply trying the drug once or twice.

- Very few think there is much risk in using **marijuana** experimentally (20% DoDDS, 18% stateside), although close to a third see occasional marijuana use as risky (30% among both DoDDS and stateside seniors).

- Experimental use of the **other illicit drugs**, however, is still viewed as risky by substantial proportions. The percentage of DoDDS seniors associating great risk with experimental use of other illicit drugs ranges from about 32% (vs. 29% stateside) for **amphetamines** to 56% (vs. 54% stateside) for **heroin**.

- Few seniors in either population believe there is much risk involved in trying an alcoholic beverage once or twice (4% DoDDS, 6% stateside).

Trends in Perceived Harmfulness

- Several very important changes have taken place between 1982 and 1987 in the beliefs about the dangers associated with using various drugs (see Table 19). There were substantial increases in the proportion of both DoDDS and stateside seniors associating great risk with the use of nearly all drugs, whether the use was experimental, occasional or regular.

- One of the most important trends involves **marijuana**. The proportion of DoDDS seniors associating great risk with the regular use of marijuana grew from 51% to 79% (and from 60% to 74% among stateside seniors) between 1982 and 1987. There was a near doubling in the proportion associating great risk with occasional marijuana use (from 15% to 30% in DoDDS, and from 18% to 30% in the states) and shifts in the proportions indicating that trying marijuana once or twice was a great risk grew from 11% to 20% among DoDDS seniors and from 12% to 18% among stateside seniors between 1982 and 1987. These trends were accompanied by significant decreases in marijuana use by both DoDDS and stateside seniors.

- There was a significant increase in the percentage of both DoDDS and stateside seniors who thought regular **cocaine** use involves great risk to the user (from 73% to about 90%) between 1982 and 1987. The proportion who thought trying cocaine once or twice entailed great risk, grew dramatically among both DoDDS and stateside seniors between 1982 and 1987 (from 29% to 49% in DoDDS and from 33% to 48% stateside). We judge this to be a very important development in the turnaround of the cocaine epidemic; and judging by the annual stateside data, most of it occurred in the 1986-1987 interval.

- A substantially greater proportion of students also associated great risk with experimental and regular **alcohol** use in 1987 in both DoDDs and stateside systems than was true in 1982. See Table 19 for specifics.

Table 19
Trends in Perceived Harmfulness of Drugs
DoDDS and Stateside Classes of 1982 and 1987

Q. How much do you think people risk harming themselves (physically or in other ways), if they ...

	Percent saying "great risk"[a]					
	1982		1987		Change from 1982–1987	
Approx. N =	*Stateside* (3560)	DoDDS (480)	*Stateside* (3260)	DoDDS (540)	*Stateside*	DoDDS
Try marijuana once or twice	11.5	11.2	18.4	20.2	+6.9sss	+9.0sss
Smoke marijuana occasionally	18.3	15.3	30.4	30.3	+12.1sss	+15.0sss
Smoke marijuana regularly	60.4	50.5sss	73.5	78.8s	+13.1sss	+28.3sss
Try LSD once or twice	44.9	41.7	44.9	50.5s	0.0	+8.8ss
Take LSD regularly	83.5	83.5	83.8	88.9ss	+0.3	+5.4s
Try cocaine once or twice	32.8	29.0	47.9	48.7	+15.1sss	+19.7sss
Take cocaine occasionally	NA	NA	66.8	69.0	NA	NA
Take cocaine regularly	73.0	72.7	88.5	89.9	+15.5sss	+17.2sss
Try heroin once or twice	51.1	49.2	53.6	55.6	+2.5	+6.4s
Take heroin occasionally	69.8	69.6	74.6	76.4	+4.8ss	+6.8s
Take heroin regularly	86.0	89.5s	88.7	92.0s	+2.7s	+2.5
Try amphetamines once or twice	25.3	22.9	29.1	31.6	+3.8s	+8.7ss
Take amphetamines regularly	64.7	66.8	69.4	71.1	+4.7ss	+4.3
Try a barbiturate once or twice	27.5	25.8	30.9	33.2	+3.4s	+7.4ss
Take barbiturates regularly	67.6	69.5	69.4	72.1	+1.8	+2.6
Try one or two drinks of an alcoholic beverage beer, wine,liquor	3.5	1.2ss	6.2	4.0	+2.7sss	+2.8ss
Take one or two drinks nearly every day	21.6	16.1ss	26.2	23.5	+4.6ss	+7.4ss
Take four or five drinks nearly every day	65.5	62.3	69.7	69.4	+4.2ss	+7.1s
Have five or more drinks once or twice each weekend	36.0	32.2	41.9	36.9s	+5.9sss	+4.7
Smoke one or more packs of cigarettes per day	60.5	62.6	68.6	67.6	+8.1sss	+5.0

NOTES: Significance of difference between the two samples: $s = .05$, $ss = .01$, $sss = .001$. In the pair of columns for each year, the significance test is based on the comparison between DoDDS and Stateside. In the columns showing the 1982–1987 change, the significance test is based on the amount of change within each of these populations. NA indicates data not available.

[a]Answer alternatives were (1) No risk, (2) Slight risk, (3) Moderate risk, (4) Great risk, and (5) Can't say, Drug unfamiliar.

- Smoking one or more packs of **cigarettes** per day was seen as involving "great risk" by similar proportions of DoDDs and stateside seniors in both 1982 and 1987. The two groups likewise have shown similar amounts of increase.

- While the risks associated with experimental and regular use of **LSD** were unchanged between 1982 and 1987 among stateside seniors, significantly more DoDDS seniors came to believe that any LSD use entailed great risk to the user. Correspondingly, actual use of LSD dropped considerably more among the DoDDS seniors during the same interval.

- Experimental and regular use of **amphetamines** was seen as involving great risk for the user by higher proportions of both DoDDS and stateside seniors in 1987 than was true in 1982.

- Similar proportions of both DoDDS and stateside seniors saw experimental and regular **barbiturate** use as involving great risk in 1982, as well as in 1987. Although the numbers of seniors in both systems associating great risk with experimental barbiturate use increased significantly between 1982 and 1987, the numbers of those thinking regular barbiturate use was risky increased less due to a "ceiling effect" on the scale.

- There were increases between 1982 and 1987 of 2% to 7% in the numbers of both DoDDs and stateside seniors indicating they thought that the experimental, occasional, or regular use of heroin was risky for the user. At this point these attitudes are nearly universal.

- In sum, there were marked increases in the proportion of both DoDDS and stateside seniors who believe that use of most of the classes of illicit drugs, whether experimental, occasional or regular, carry great risk of harm to the user physically or in other ways. Somewhat more seniors in both systems also came to believe that use of **alcohol** and the regular use of **cigarettes** entailed great risk for the users between 1982 and 1987.

PERSONAL DISAPPROVAL OF DRUG USE

A different set of questions was developed to try to measure any general moral sentiment attached to various types of drug use. The phrasing, "Do you disapprove of people (who are 18 or older) doing each of the following" was adopted.

Extent of Disapproval in 1987

- The great majority of DoDDS students and stateside students do not condone regular use of any of the **illicit drugs** (see Table 20). Even regular marijuana use is disapproved by 89% of both the DoDDS and stateside seniors, and regular use of each of the other illicits receives disapproval from nearly all seniors (between 94% and 98%).

- Smoking a pack (or more) of **cigarettes** per day receives the disapproval of fully 69% of DoDDS seniors. Somewhat more stateside seniors (74%) disapprove of smoking.

- Drinking **alcohol** at the rate of one or two drinks daily also receives disapproval from two-thirds of DoDDS seniors (67%), although again a higher proportion of stateside seniors (74%) disapprove of this behavior. It is interesting to note that weekend binge drinking (five or more drinks once or twice each weekend) is acceptable to more DoDDS and stateside seniors than is moderate daily drinking. While only 60% in DoDDS disapprove of having five or more drinks once or twice a weekend, 67% disapprove of having one or two drinks daily. This is in spite of the fact that they associate greater risk with weekend binge drinking (37%) than with the daily drinking (24%). (The same pattern emerges among stateside seniors although disapproval of moderate daily drinking is slightly higher than among DoDDS seniors.) One possible explanation for these seemingly inconsistent findings may stem from the fact that a greater proportion of this age group are themselves weekend binge drinkers rather than regular daily drinkers. They have thus expressed attitudes accepting of their own behavior, even though they may be somewhat inconsistent with their beliefs about possible consequences.

- For **all drugs**, fewer seniors indicate disapproval of experimental use than of regular use, as would be expected. The differences in the rates are not great, however, for the illicit drugs other than marijuana. For example, 86% of the DoDDS sample disapprove of experimenting with **cocaine** vs. 96% who disapprove its regular use.

- For **marijuana**, however, the rate of disapproval varies substantially for different usage habits. Although 89% of both DoDDs and stateside seniors disapprove of regular use, "only" 57% disapprove of experimental use.

- Significantly more stateside seniors disapprove of even trying **LSD**, **barbiturates** and **heroin** once or twice than do DoDDS seniors, although the great majority of seniors (85% to 96%) in both systems disapprove of their use on an experimental basis.

Trends in Proportions Disapproving of Drug Use

There were substantial increases in the disapproval rates for virtually all of the illicit drugs between 1982 and 1987 among both DoDDs and stateside seniors. (See Table 21.)

- The most dramatic increases in disapproval rates occurred for **marijuana**, where significantly more seniors in both DoDDS and stateside systems disapproved of its use in 1987 than was true in 1982 at every level of use--experimental, occasional, and regular. Further, although DoDDS seniors had been more accepting of marijuana use in 1982 than stateside seniors, equivalent proportions of the seniors in both systems in 1987 disapproved of such use. This means that the amount of shift was greater in the DoDDS system. For example, the proportion disapproving of occasional marijuana use rose by 21% among DoDDS seniors vs. only 13% among stateside seniors between 1982 and 1987.

Table 20
Proportions Disapproving of Drug Use,
DoDDS and Stateside Class of 1987

Q. Do you disapprove of people who are 18 or older doing each of the following?	Percent "disapproving"[a]							
	Total			DoDDS Region				
	Stateside	DoDDS	DoDDS-*Stateside* Diff.	Atlantic	Germany	Mediterranean	Pacific	Panama
Trying marijuana once or twice	56.6	56.6	0.0	55.2	59.4	34.0	50.4	73.1
Smoking marijuana occasionally	71.6	72.9	+1.3	75.0	74.8	58.5	65.9	84.6
Smoking marijuana regularly	89.2	89.0	−0.2	93.7	89.2	81.1	85.4	96.2
Trying LSD once or twice	91.6	88.3	−3.3s	88.5	88.3	84.9	84.6	100.0
Take LSD regularly	97.8	96.3	−1.5	97.9	95.9	92.5	96.7	100.0
Try cocaine once or twice	87.3	85.8	−1.5	85.4	87.9	77.4	78.5	94.2
Take cocaine regularly	96.7	96.3	−0.4	96.9	95.5	96.2	97.5	100.0
Try heroin once or twice	96.2	92.6	−3.6sss	92.7	93.3	92.5	87.6	98.1
Take heroin occasionally	97.9	97.0	−0.9	96.9	97.3	96.2	95.1	100.0
Take heroin regularly	98.1	97.5	−0.6	97.9	97.3	96.2	97.5	100.0
Try amphetamines once or twice	80.7	78.6	−2.1	76.0	80.7	64.2	71.9	96.1
Take amphetamines regularly	95.4	94.0	−1.4	95.8	93.7	92.5	91.7	100.0
Try a barbiturate once or twice	89.6	85.4	−4.2ss	84.4	87.4	75.5	77.9	98.0
Take barbiturates regularly	96.4	94.7	−1.7	95.8	94.6	90.6	93.4	100.0
Try one or two drinks of an alcoholic beverage (beer, wine,liquor)	21.4	16.4	−5.0s	10.4	16.6	5.7	22.3	23.1
Take one or two drinks nearly every day	74.2	67.1	−7.1ss	53.1	69.8	54.7	69.4	76.9
Take four or five drinks nearly every day	92.2	91.3	−0.9	89.5	92.8	77.4	89.3	100.0
Have five or more drinks once or twice each weekend	62.0	59.6	−2.4	45.8	62.8	41.5	63.6	67.3
Smoke one or more packs of cigarettes per day	74.3	69.0	−5.3s	63.5	69.2	58.5	72.4	80.8
Approx. N =	(3260)	(540)		(100)	(220)	(50)	(120)	(50)

NOTE: Significance of difference between the two samples: *s*=.05, *ss*=.01, *sss*=.001.

[a]Answer alternatives were: (1) Don't disapprove, (2) Disapprove, and (3) Strongly disapprove. Percentages are shown for categories (2) and (3) combined.

- There were also significant increases in the proportion of both DoDDs and stateside seniors disapproving of **cocaine** use at both the experimental and regular usage levels between 1982 and 1987. Again, there was a larger shift toward disapproval among DoDDS seniors, which offset previous differences between the two populations.

- Experimental and regular use of **LSD** was disapproved by somewhat more seniors in both systems in 1987 than in 1982.

- Seniors in both DoDDS and stateside systems also became more disapproving of experimental and regular **amphetamine** use between 1982 and 1987. Similarly, between 1982 and 1987, the proportion of both DoDDS and stateside seniors disapproving of **barbiturate** use also increased.

- All patterns of **alcohol** use received more disapproval in 1987 than in 1982 among DoDDS seniors. These changes were generally larger than were observed stateside; but, because DoDDS started out with considerably less disapproval of drinking, they are still slightly less disapproving than their stateside counterparts. See Table 21 for details.

- The proportion of seniors in both the DoDDS and stateside systems disapproving of smoking one or more packs of **cigarettes** per day increased significantly between 1982 and 1987, although stateside seniors were more disapproving of this behavior in both 1982 and 1987 than DoDDS seniors.

- In sum, the DoDDS seniors have caught up to their stateside counterparts in their disapproval of most of the illicit drugs. They have also caught up to some degree, though not completely, in their disapproval of alcohol and cigarette use.

Table 21
Trends in Proportions Disapproving of Drug Use, DoDDS and Stateside Classes of 1982 and 1987

Q. Do you disapprove of people who are 18 or older doing each of the following?	Percent "disapproving"[a]					
	1982		1987		Change from 1982–1987	
Approx. N =	*Stateside* (3560)	DoDDS (480)	*Stateside* (3260)	DoDDS (540)	*Stateside*	DoDDS
Trying marijuana once or twice	45.5	35.1sss	56.6	56.6	+11.1sss	+21.5sss
Smoking marijuana occasionally	59.1	51.5ss	71.6	72.9	+12.5sss	+21.4sss
Smoking marijuana regularly	80.6	74.7ss	89.2	89.0	+8.6sss	+14.3sss
Trying LSD once or twice	88.8	81.5sss	91.6	88.3s	+2.8ss	+6.8ss
Take LSD regularly	96.7	93.9ss	97.8	96.3	+1.1s	+2.4
Try cocaine one or twice	76.6	70.3ss	87.3	85.8	+10.7sss	+15.5sss
Take cocaine regularly	91.5	88.9	96.7	96.3	+5.2sss	+7.4sss
Try heroin once or twice	94.6	89.6sss	96.2	92.6sss	+1.6s	+3.0
Take heroin occasionally	96.9	94.4ss	97.9	97.0	+1.0	+2.6s
Take heroin regularly	97.5	96.1	98.1	97.5	+0.6	+1.4
Try amphetamines once or twice	72.6	68.1s	80.7	78.6	+8.1sss	+10.5sss
Take amphetamines regularly	92.0	90.2	95.4	94.0	+3.4sss	+3.8s
Try a barbiturate once or twice	84.4	77.9ss	89.6	85.4ss	+5.2sss	+7.5ss
Take barbiturates regularly	94.4	91.8s	96.4	94.7	+2.0ss	+2.9
Try one or two drinks of an alcoholic beverage (beer, wine,liquor)	18.2	9.6sss	21.4	16.4s	+3.2s	+6.8ss
Take one or two drinks nearly every day	69.9	62.8ss	74.2	67.1ss	+4.3ss	+4.3
Take four or five drinks nearly every day	90.9	88.5	92.2	91.3	+1.3	+2.8
Have five or more drinks once or twice each weekend	58.8	52.7s	62.0	59.6	+3.2	+6.9s
Smoke one or more packs of cigarettes per day	69.4	62.8ss	74.3	69.0s	+4.9ss	+6.2s

NOTES: Significance of difference between the two samples: $s=.05$, $ss=.01$, $sss=.001$. In the pair of columns for each year, the significance test is based on the comparison between DoDDS and Stateside. In the columns showing the 1982–1987 change, the significance test is based on the amount of change within each of these populations.

[a]Answer alternatives were: (1) Don't disapprove, (2) Disapprove, and (3) Strongly disapprove. Percentages are shown for categories (2) and (3) combined.

THE SOCIAL MILIEU

The preceding section dealt with seniors' attitudes about various forms of drug use. Attitudes about drugs, as well as drug-related behaviors, obviously do not occur in a social vacuum. Drugs are discussed in the media; they are a topic of considerable interest and conversation among young people; they are also a matter of much concern to parents, concern which often is strongly communicated to their children. Young people are known to be affected by the actual drug-taking behaviors of their friends and acquaintances, as well as by the availability of the various drugs. This section presents data on several of these relevant aspects of the social milieu. We begin with a set of questions about peer attitudes, questions which closely parallel the questions about respondents' own attitudes about drug use, which were discussed in the preceding section.

CURRENT PERCEPTIONS OF FRIENDS' ATTITUDES

- This set of questions asked respondents to estimate their friends' attitudes about drug use (Table 22). These questions ask "How do you think your close friends feel (or would feel) about you. . . ?" The vast majority of 1987 DoDDS seniors think that their friends would disapprove of any use by them of any illicit drug other than marijuana. Fully 87% say their friends would disapprove of their trying **cocaine** once or twice, 91% say the same for trying **LSD**, and 84% for trying **amphetamines**. Although trying **marijuana** once or twice is not perceived as quite so strongly disapproved by friends, still a clear majority (62%) of seniors report that they think their friends would disapprove. And regular or occasional use of marijuana would meet very high levels of disapproval (86% and 73%, respectively).

- In contrast, having **five or more drinks once or twice each weekend** is judged by less than half of the DoDDS seniors (46%) to earn their friends' disapproval. Substantially more (71%) think their friends would disapprove of their consumption of one or two drinks nearly every day, and 86% think their friends would disapprove of taking four or five drinks every day.

- Three-quarters (75%) of DoDDS seniors think their friends would disapprove if they smoked a pack or more of **cigarettes** daily.

- While these perceived peer norms regarding drug use are generally very similar among the DoDDS and stateside seniors, there are a few differences which correlate with actual levels of drug use and approval of drug use within each system. Stateside seniors feel their friends would be somewhat more accepting of occasional marijuana use (67% say their friends would disapprove vs. 73% DoDDS), whereas DoDDS seniors see their friends as less disapproving of heavy weekend drinking (46% would disapprove vs. 52% of stateside seniors' friends).

Table 22
Proportions of Friends Disapproving of Drug Use, DoDDS and Stateside Class of 1987

Q. How do you think your close friends feel (or would feel) about you...	Percent Disapproving[a]							
	Total			DoDDS Region				
	State-side	DoDDS	DoDDS-*Stateside* Diff.	Atlantic	Germany	Mediterranean	Pacific	Panama
Trying marijuana once or twice	58.0	61.9	+3.9	69.5	60.6	50.9	59.2	76.0
Smoking marijuana occasionally	67.0	73.1	+6.1ss	81.1	70.4	73.6	70.8	84.0
Smoking marijuana regularly	82.9	86.0	+3.1	93.7	84.2	84.9	84.2	92.0
Trying LSD once or twice	87.9	91.1	+3.2s	96.8	91.1	88.7	85.7	96.0
Trying cocaine once or twice	83.9	87.4	+3.5s	93.6	87.2	83.0	85.9	86.0
Taking cocaine occasionally	89.7	93.3	+3.6s	96.8	93.2	92.5	91.6	94.0
Trying an amphetamine once or twice	80.0	83.8	+3.8	91.5	82.8	83.0	78.3	92.0
Taking one or two drinks nearly every day	71.8	70.5	−1.3	70.2	71.1	66.0	68.3	76.0
Taking four or five drinks every day	85.6	86.0	+0.4	83.9	87.2	84.6	86.4	80.0
Having five or more drinks once or twice every weekend	52.4	46.3	−6.1s	39.8	49.5	34.0	40.0	60.0
Smoking one or more packs of cigarettes per day	74.2	74.8	+0.6	76.6	76.4	58.5	73.3	80.0
Approx. N =	(3260)	(540)		(100)	(220)	(50)	(120)	(50)

NOTE: Significance of difference between the two samples: $s = .05$, $ss = .01$, $sss = .001$.

[a]Answer alternatives were: (1) Not disapprove, (2) Disapprove, and (3) Strongly disapprove. Percentages are shown for categories (2) and (3) combined.

- But in general, peer norms among both the DoDDS and stateside seniors are quite conservative, particularly for any use of illicit drugs other than marijuana. Even for marijuana, norms are quite conservative for use on a regular basis, and well over half of seniors now believe their friends would disapprove of their even trying marijuana. The behavior seniors think their peers would be most accepting of is having five or more drinks once or twice each weekend, although about half still believe their friends would disapprove.

Trends in Proportions of Friends Disapproving of Drug Use

- Several important changes in the perceived attitudes of peers have taken place between 1982 and 1987. There were substantial increases in the proportions of seniors in both the DoDDS and stateside systems that thought their friends would disapprove of their using any of the illicit drugs--including **marijuana**, **LSD**, and **amphetamines**.[1] (See Table 23.)

- For each level of **marijuana**--trying once or twice, occasional use, regular use--there was an increase in the proportion of seniors who thought their friends would disapprove of their use. Increases in disapproval were larger in the DoDDS system than stateside, with the result that marijuana use now finds less peer acceptance in DoDDS, whereas in 1982 the two populations had been pretty comparable.

- Seniors' perceptions of their friends' approval of their use of **alcohol**, including taking one or two drinks nearly every day, taking four or five drinks nearly every day, and heavy weekend binge drinking, did not change significantly between 1982 and 1987 among either the DoDDS or stateside populations. There is even some indication that weekend heavy drinking has become more acceptable in the DoDDS system.

- Peer disapproval of smoking one or more packs of **cigarettes** per day increased among both populations, although the increase was greater among the DoDDS seniors. Some 75% of the DoDDS seniors and 74% of the stateside seniors in 1987 think that their close friends would disapprove of their smoking a pack a day or more.

EXPOSURE TO DRUG USE BY FRIENDS AND OTHERS

- It is generally agreed that much of youthful drug use is initiated through a peer social-learning process; and research has shown a high correlation between an individual's illicit drug use and that of his or her friends. Such a correlation can, and probably does, reflect several different causal patterns: (a) a person with friends who use a drug will be more likely to try the drug; (b) conversely, the individual who is already using a drug will be likely to introduce friends to the experience; and (c) one who is already a user is more likely to establish friendships with others who also are users.

- Given the potential importance of exposure to drug use by others, we felt it would be useful to monitor seniors' association with others taking

1. Peers' disapproval of cocaine use was not asked in 1982; therefore, no trends are available.

Table 23
Trends in Proportions of Friends Disapproving of Drug Use, DoDDS and Stateside Classes of 1982 and 1987

Q. How do you think your close friends feel (or would feel) about you...	Percent Disapproving[a]					
	1982		1987		Change from 1982-1987	
Approx. N =	*Stateside* (3020)	DoDDS (450)	*Stateside* (3260)	DoDDS (540)	*Stateside*	DoDDS
Trying marijuana once or twice	50.3	45.0s	58.0	61.9	+7.7sss	+16.9sss
Smoking marijuana occasionally	57.4	56.0	67.0	73.1ss	+9.6sss	+17.1sss
Smoking marijuana regularly	74.7	75.8	82.9	86.0	+8.2sss	+10.2sss
Trying LSD once or twice	87.8	84.3s	87.9	91.1s	+0.1	+6.8ss
Trying cocaine once or twice	NA	NA	83.9	87.4s	NA	NA
Taking cocaine occasionally	NA	NA	89.7	93.3s	NA	NA
Trying an amphetamine once or twice	75.7	75.8	80.0	83.8	+4.3ss	+8.0ss
Taking one or two drinks nearly every day	71.9	69.0	71.8	70.5	−0.1	+1.5
Taking four or five drinks every day	86.6	85.0	85.6	86.0	−1.0	+1.0
Having five or more drinks once or twice every weekend	51.2	51.4	52.4	46.3s	+1.2	−5.1
Smoking one or more packs of cigarettes per day	70.3	67.9	74.2	74.8	+3.9s	+6.9s

NOTES: Significance of difference between the two samples: $s = .05$, $ss = .01$, $sss = .001$. In the pair of columns for each year, the significance test is based on the comparison between DoDDS and Stateside. In the columns showing the 1982-1987 change, the significance test is based on the amount of change within each of these populations. NA indicates data not available.

[a]Answer alternatives were: (1) Not disapprove, (2) Disapprove, and (3) Strongly disapprove. Percentages are shown for categories (2) and (3) combined.

drugs, as well as seniors' perceptions about the extent to which their friends use drugs. Two sets of questions, each covering all or nearly all of the categories of drug use treated in this report, asked seniors to indicate (a) how often during the past twelve months they were around people taking each of the drugs to get high or for "kicks," and (b) what proportion of their own friends use each of the drugs. (The questions dealing with friends' use are shown in Tables 24 and 25. The data dealing with direct exposure to use may be found in Tables 26 and 27.) Obviously, responses to these two questions are highly correlated with the respondents' own drug use; thus, for example, seniors who have recently used marijuana are much more likely to report that they have been around others getting high on marijuana, and that most of their friends use it.

Exposure to Drug Use

- A comparison of responses about friends' use and about being around people in the last twelve months who were using various drugs to get high reveals a high degree of correspondence between these two indicators of exposure. For each drug, the proportion of respondents saying "none" of their friends use it is fairly close to the proportion who say that during the last twelve months they have not been around anyone who was using that drug to get high. Similarly, the proportion saying they are "often" around people getting high on a given drug is roughly the same as the proportion reporting that "most" or "all" of their friends use that drug.

- The highest levels of exposure involve the use of **alcohol**--a majority (59% DoDDS vs. 61% stateside) say they are "often" around people using it to get high. Fully 28% of all DoDDS seniors (31% stateside) say that most or all of their friends go so far as to get drunk at least once a week, which is consistent with the large proportions of seniors (38% DoDDs, 37% stateside) who report that they personally had taken five or more drinks in a row during the prior two weeks.

- The proportion of DoDDS seniors saying that "most or all" of their friends smoke **cigarettes** (28%) is somewhat greater then the proportion of stateside seniors (21%). This comparison parallels the fact that a greater proportion of DoDDS seniors (34%) than stateside seniors (29%) smoked cigarettes in the past month.

- The drug to which students are next most frequently exposed is **marijuana**. Some 12% of DoDDS seniors are "often" around people using it to get high. Only 45% report no exposure during the year. Significantly more stateside seniors are often around people using marijuana (21%) and 30% reported no exposure during the past year.

- Very few seniors in either system report much exposure to the other illicit drugs. However, more stateside seniors report they have often been around others in the past year using **cocaine** (5.9%) than have DoDDS seniors (1.3%). Stateside seniors also report greater exposure to **amphetamines** (4.5% stateside vs. 2.4% DoDDS say they have often been around others using amphetamines in the past year).

Table 24
Proportions of Friends Using Drugs,
DoDDS and Stateside Class of 1987

Q. How many of your friends would you estimate ...[a]	Total			DoDDS Region				
	Stateside	DoDDS	DoDDS-*Stateside* Diff.	Atlantic	Germany	Mediterranean	Pacific	Panama
Smoke marijuana								
% saying none	21.6	29.0	+7.4sss	40.6	28.0	15.4	26.4	36.0
% saying most or all	15.8	8.5	−7.3sss	4.2	9.5	13.5	7.4	6.0
Use inhalants								
% saying none	75.3	68.2	−7.1ss	74.5	66.5	84.3	59.2	76.0
% saying most or all	1.9	3.0	+1.1	1.1	4.8	0.0	0.8	0.0
Use nitrites								
% saying none	81.7	88.2	+6.5sss	90.3	87.7	92.3	85.5	91.5
% saying most or all	1.3	0.7	−0.6	1.1	0.9	0.0	0.0	0.0
Use LSD								
% saying none	74.7	83.9	+9.2sss	90.6	83.3	80.8	84.2	78.0
% saying most or all	1.6	0.5	−1.1	0.0	1.0	0.0	0.0	0.0
Take other psychedelics								
% saying none	78.3	85.9	+7.6sss	93.8	84.8	88.5	83.3	83.7
% saying most or all	1.2	0.7	−0.5	0.0	1.0	0.0	0.8	0.0
Take PCP								
% saying none	84.5	89.8	+5.3ss	94.7	88.7	90.4	88.1	93.5
% saying most or all	1.1	0.1	−1.0s	0.0	0.0	0.0	0.8	0.0
Take cocaine								
% saying none	56.3	75.3	+19.0sss	88.4	76.2	69.2	75.0	50.0
% saying most or all	5.1	1.6	−3.5sss	1.1	1.4	3.8	1.7	2.0
Take heroin								
% saying none	86.1	87.8	+1.7	91.6	87.1	82.7	90.0	86.0
% saying most or all	0.9	0.4	−0.5	0.0	0.5	1.9	0.0	0.0
Take other narcotics								
% saying none	76.8	79.0	+2.2	88.3	80.0	73.1	66.7	89.8
% saying most or all	1.4	1.9	+0.5	1.1	1.9	0.0	4.2	0.0
Take amphetamines								
% saying none	60.5	69.9	+9.4sss	83.2	69.4	76.5	57.5	72.0
% saying most or all	2.6	1.5	−1.1	0.0	2.4	0.0	0.8	0.0
Take barbiturates								
% saying none	75.7	81.0	+5.3s	88.4	81.9	82.7	70.0	83.7
% saying most or all	1.1	0.3	−0.8	0.0	0.5	0.0	0.0	0.0

Table 24, Continued

Q. How many of your friends would you estimate ...[a]	Total			DoDDS Region				
	Stateside	DoDDS	DoDDS-*Stateside* Diff.	Atlantic	Germany	Mediterranean	Pacific	Panama
Take quaaludes								
% saying none	78.0	83.0	+5.0s	90.5	83.3	84.6	74.8	84.0
% saying most or all	1.0	0.3	−0.7	0.0	0.5	0.0	0.0	0.0
Take tranquilizers								
% saying none	76.7	80.5	+3.8	87.4	81.4	78.8	73.9	77.6
% saying most or all	1.0	0.3	−0.7	0.0	0.5	0.0	0.0	0.0
Drink alcoholic beverages								
% saying none	4.6	3.9	−0.7	2.1	3.8	3.8	4.1	8.0
% saying most or all	71.8	74.3	+2.5	74.7	74.2	82.7	73.6	68.0
Get drunk at least once a week								
% saying none	14.4	14.1	−0.3	10.4	14.6	13.5	10.0	28.0
% saying most or all	31.3	27.8	−3.5	29.2	27.2	32.7	31.7	16.0
Smoke cigarettes								
% saying none	11.7	8.9	−2.8	14.6	8.0	5.7	6.7	14.0
% saying most or all	21.0	28.1	+7.1ss	20.8	30.0	28.3	29.2	22.0
Take any illicit drug[b]								
% saying none	18.7	26.4	+7.7sss	35.9	26.3	13.7	22.5	32.7
% saying most or all	18.4	12.4	−6.0ss	6.6	13.8	14.0	12.9	8.7
Take any illicit drug[b] other than marijuana								
% saying none	38.6	51.0	+12.4sss	60.9	54.5	43.1	37.5	42.9
% saying most or all	8.9	5.6	−3.3s	3.3	6.4	4.0	6.9	2.2
Approximate N	(3260)	(540)		(100)	(200)	(50)	(120)	(50)

NOTE: Significance of difference between the two samples: $s = .05$, $ss = .01$, $sss = .001$.

[a]Answer alternatives were: (1) None, (2) A few, (3) Some, (4), Most, and (5) All.

[b]These estimates were derived from responses to the questions listed above. "Any illicit drug" includes all drugs listed except alcohol.

Trends in Exposure to Drug Use

- The changes in proportions of both DoDDs and stateside seniors that have been exposed to use of the licit and illicit drugs for the most part mirrored the changes in prevalence levels between 1982 and 1987.

- In 1982, 30% of the DoDDS and 28% of the stateside seniors said they had often been around people using **marijuana** during the past year. Substantial decreases occurred in these numbers between 1982 and 1987, especially among the DoDDS seniors, where in 1987 only 12% (21% stateside) reported they had been frequently exposed to marijuana use during the past year.

- Exposure to **amphetamines**, **barbiturates** and **tranquilizers** all decreased between 1982 and 1987 among both DoDDS and stateside seniors.

- **Inhalants** are an exception to the general downward trend in drug use among friends. In 1982 the two populations had equivalent levels of exposure. By 1987, they both showed an increase in exposure to inhalant use but the increase was greater in DoDDS, corresponding with a higher level of use in 1987 than was true stateside.

- Exposure to **cocaine** use decreased significantly among DoDDS seniors between 1982 and 1987, but remained relatively unchanged among stateside seniors. Nearly four percent (3.6%) of the DoDDS seniors (6.6% stateside) said they were often around people using cocaine in 1982, compared to 1.3% (5.9% stateside) in 1987.

- There was little change in the similar rates of exposure to **heroin** among DoDDS and stateside seniors between 1982 and 1987, although DoDDS seniors in 1987 were more likely to report that they had not been around people using heroin in the past year than were DoDDS seniors in 1982.

- Similar proportions of both DoDDS and stateside seniors were exposed to the use of the **opiates other than heroin** in both 1982 and 1987, although there was a decreased level of exposure in both populations in between 1982 and 1987.

- Although in 1982 a substantially higher proportion of DoDDS seniors said they were often around people getting high on **alcohol** (69% vs 59% stateside), in 1987 similar percentages in both populations reported being exposed to alcohol use (61% DoDDS vs. 59% stateside). Similarly, in 1982 more DoDDS than stateside seniors said that none of their friends "get drunk at least once a week," whereas in 1987 equivalent proportions in both systems said that. There were no changes in the numbers of seniors in the DoDDS and stateside systems who said most or all of their friends drink alcohol (nearly three out of four) in both 1982 and 1987; however, there was a modest increase in both populations in the proportion who said that most of their friends get drunk at least once a week. On the other hand, the frequency of being around people getting high on alcohol appears to have decreased in DoDDS.

- Between 1982 and 1987 there was a drop among stateside seniors in the proportion reporting most of their friends smoked **cigarettes** (from 24% to 21%); however there was an increase among DoDDS seniors (from 26% to 28%), resulting in significantly more DoDDS seniors reporting that most or all of their friends smoke.

IMPLICATION FOR VALIDITY OF SELF-REPORTED USAGE QUESTIONS

There is a high degree of correspondence in the aggregate level data presented in this report among the DoDDS and stateside seniors' self-report of their own drug use, their reports concerning friends' use and their own exposure to use. Drug-to-drug comparisons in any given year across these three types of measures tend to be highly parallel, as are the changes from year to year. We take this consistency as additional evidence for the validity of the self-report data, and of trends in the self report data, since there should be less reason to distort answers on friends' use, than to distort the reporting of one's own use.

PERCEIVED AVAILABILITY OF DRUGS

One set of questions asks for estimates of how difficult it would be to obtain each of a number of different drugs. The answers range across five categories from "probably impossible" to "very easy." While no systematic effort has been undertaken to assess the validity of these measures, it must be said that they do have a rather high level of face validity--particularly if it is the subjective reality of "perceived availability" which is purported to be measured. It also seems quite reasonable to us to assume that perceived availability tracks actual availability to some extent.

Perceived Availability

- DoDDS seniors report easier access to the **opiates other than heroin** than stateside seniors, and about the same level of availability for **heroin**. (See Table 28.) However, stateside seniors find it easier to get all the other illicit drugs about which we asked: **marijuana**, **psychedelics**, **cocaine** and **amphetamines**; and the difference in the availability of cocaine is quite substantial. In general, the more widely used drugs are reported to be available by the highest proportion of the age group, as would be expected. However, the availability of some of these drugs varies considerably among the DoDDS regions.

- **Marijuana** appears to be readily available to more stateside seniors (85% report it would "fairly easy" or "very easy" to get marijuana) than DoDDS seniors (74%).

- After marijuana, seniors in DoDDS and stateside high schools indicate that the psychotherapeutic drugs are the most available to them: **amphetamines** are seen as available by 55% of DoDDS seniors (65% stateside), **barbiturates** by 44% in DoDDS (48% stateside), and **tranquilizers** by 51% DoDDS (49% stateside).

- Some 54% of the seniors in the stateside system indicate that **cocaine** is fairly easy to get; however, a significantly smaller 34% of the DoDDS seniors perceive cocaine as readily available. The perceived availability

Table 25
Trends in Proportions of Friends Using Drugs, DoDDS and Stateside Classes of 1982 and 1987

Q. How many of your friends would you estimate ...[a]	1982		1987		Change from 1982-1987	
Approx. N =	*Stateside* (3300)	DoDDS (490)	*Stateside* (3260)	DoDDS (540)	*Stateside*	DoDDS
Smoke marijuana						
% saying none	15.6	18.7	21.6	29.0sss	+6.0sss	+10.3sss
% saying most or all	23.8	22.0	15.8	8.5sss	−8.0sss	−13.5sss
Use inhalants						
% saying none	81.6	80.1	75.3	68.2ss	−6.3sss	−11.9sss
% saying most or all	1.3	1.9	1.9	3.0	+0.6	+1.1
Use nitrites						
% saying none	82.5	82.5	81.7	88.2sss	−0.8	+5.7ss
% saying most or all	0.9	1.3	1.3	0.7	+0.4	−0.6
Use LSD						
% saying none	72.2	74.4	74.7	83.9sss	+2.5	+9.5sss
% saying most or all	2.4	1.9	1.6	0.5	−0.8	−1.4s
Take other psychedelics						
% saying none	74.4	77.0	78.3	85.9sss	+3.9s	+8.9sss
% saying most or all	1.9	1.6	1.2	0.7	−0.7	−0.9
Take PCP						
% saying none	82.7	85.1	84.5	89.8ss	+1.8	+4.7s
% saying most or all	0.9	1.0	1.1	0.1s	+0.2	−0.9s
Take cocaine						
% saying none	59.3	70.6sss	56.3	75.3sss	−3.0	+4.7
% saying most or all	4.9	4.6	5.1	1.6sss	+0.2	−3.0ss
Take heroin						
% saying none	86.8	86.5	86.1	87.8	−0.7	+1.3
% saying most or all	0.7	0.6	0.9	0.4	+0.2	−0.2
Take other narcotics						
% saying none	76.1	75.6	76.8	79.0	+0.7	+3.4
% saying most or all	1.4	1.6	1.4	1.9	0.0	+0.3
Take amphetamines						
% saying none	49.4	61.7sss	60.5	69.9sss	+11.1sss	+8.2ss
% saying most or all	5.4	3.0s	2.6	1.5	−2.8sss	−1.5

Table 25, Continued

Q. How many of your friends would you estimate ...[a]	1982		1987		Change from 1982-1987	
	State-side	DoDDS	*State-side*	DoDDS	*State-side*	DoDDS
Approx. N =	(3300)	(490)	(3260)	(540)		
Take barbiturates						
% saying none	68.7	71.0	75.7	81.0s	+7.0sss	+10.0sss
% saying most or all . . .	1.8	1.0	1.1	0.3	−0.7	−0.7
Take quaaludes						
% saying none	64.5	72.5ss	78.0	83.0s	+13.5sss	+10.5sss
% saying most or all . . .	2.6	1.0s	1.0	0.3	−1.6ss	−0.7
Take tranquilizers						
% saying none	70.1	69.7	76.7	80.5	+6.6sss	+10.8sss
% saying most or all . . .	1.1	1.3	1.0	0.3	−0.1	−1.0
Drink alcoholic beverages						
% saying none	4.3	2.4	4.6	3.9	+0.3	+1.5
% saying most or all . . .	69.7	72.2	71.8	74.3	+2.1	+2.1
Get drunk at least once a week						
% saying none	16.9	19.6	14.4	14.1	−2.5	−5.5s
% saying most or all . . .	29.9	25.5	31.3	27.	+1.4	+2.3
Smoke cigarettes						
% saying none	11.7	8.7	11.7	8.9	0.0	+0.2
% saying most or all . . .	24.1	25.8	21.0	28.1ss	−3.1s	+2.3
Take any illicit drug[b] . . .						
% saying none	NA	NA	18.7	26.4sss	NA	NA
% saying most or all . . .	NA	NA	18.4	12.4ss	NA	NA
Take any illicit drug[b] other than marijuana . .						
% saying none	NA	NA	38.6	51.0sss	NA	NA
% saying most or all . . .	NA	NA	8.9	5.6s	NA	NA

NOTES: Significance of difference between the two samples: $s = .05$, $ss = .01$, $sss = .001$. In the pair of columns for each year, the significance test is based on the comparison between DoDDS and Stateside. In the columns showing the 1982-1987 change, the significance test is based on the amount of change within each of these populations. NA indicates data not available.

[a]Answer alternatives were: (1) None, (2) A few, (3) Some, (4), Most, and (5) All.

[b]These estimates were derived from responses to the questions listed above. "Any illicit drug" includes all drugs listed except alcohol.

Table 26
Exposure to Drug Use,
DoDDS and Stateside Class of 1987

Q. During the last 12 MONTHS how often have you been around people who were taking each of the following to get high or for kicks?[a]	Total			DoDDS Region				
	Stateside	DoDDS	DoDDS-*Stateside* Diff.	Atlantic	Germany	Mediterranean	Pacific	Panama
Marijuana								
% saying not at all	29.6	45.3	+15.7sss	54.2	43.4	26.9	48.8	55.8
% saying often	20.6	11.7	−8.9sss	6.3	11.8	23.1	11.6	9.6
LSD								
% saying not at all	87.1	92.5	+5.4ss	94.7	91.6	88.7	93.3	98.1
% saying often	1.8	0.7	−1.1	1.1	0.9	0.0	0.0	0.0
Other psychedelics								
% saying not all	90.0	92.6	+2.6	96.9	91.3	92.5	92.6	96.1
% saying often	1.2	0.7	−0.5	0.0	0.9	0.0	0.8	0.0
Cocaine								
% saying not at all	65.1	84.5	+19.4sss	88.5	86.8	79.2	83.3	65.4
% saying often	5.9	1.3	−4.6sss	0.0	0.9	1.9	0.0	9.6
Heroin								
% saying not at all	94.2	94.2	0.0	93.6	94.1	94.3	96.7	90.4
% saying often	0.9	0.5	−0.4	0.0	0.5	1.9	0.0	1.9
Other narcotics								
% saying not at all	85.6	84.0	−1.6	86.5	88.1	77.4	68.3	88.2
% saying often	1.7	2.9	+1.2	1.0	0.9	1.9	12.5	2.0
Amphetamines								
% saying not at all	68.3	76.7	+8.4sss	82.5	76.7	77.4	67.8	86.3
% saying often	4.5	2.4	−2.1s	1.0	1.8	1.9	5.8	2.0
Barbiturates								
% saying not at all	86.9	89.1	+2.2	90.5	90.0	86.8	83.3	94.2
% saying often	1.5	1.1	−0.4	1.1	0.5	1.9	3.3	0.0
Tranquilizers								
% saying not at all	81.6	80.1	−1.5	85.4	80.7	75.5	76.7	76.9
% saying often	2.6	1.8	−0.8	2.1	1.4	3.8	3.3	0.0

97

Table 26, Continued

Q. During the last 12 MONTHS how often have you been around people who were taking each of the following to get high or for kicks?[a]	Total			DoDDS Region				
	Stateside	DoDDS	DoDDS-*Stateside* Diff.	Atlantic	Germany	Mediterranean	Pacific	Panama
Alcoholic beverages								
% saying not at all	6.1	5.0	−1.1	6.2	3.6	3.8	9.1	5.8
% saying often	58.7	60.5	+1.8	64.9	59.7	69.8	59.5	51.9
Any illicit drug[b]								
% saying not at all	26.1	37.9	+11.8sss	45.8	36.7	24.5	38.0	47.1
% saying often	23.3	14.2	−9.1sss	9.8	12.9	23.1	19.3	11.8
Any illicit drug[b] other than marijuana								
% saying not at all	48.3	60.6	+12.3sss	64.6	63.7	56.6	50.4	54.9
% saying often	10.2	5.4	−4.8sss	3.3	3.3	3.8	13.4	9.8
Approx. N =	(3260)	(540)		(100)	(220)	(50)	(120)	(50)

NOTE: Significance of difference between the two samples: *s* = .05, *ss* = .01, *sss* = .001.

[a]Answer alternatives were: (1) Not at all, (2) Once or twice, (3) Occasionally, and (4) Often.

[b]These estimates were derived from responses to the questions listed above. "Any illicit drug" includes all drugs listed except alcohol.

Table 27
Trends in Exposure to Drug Use,
DoDDS and Stateside Classes of 1982 and 1987

Q. During the last 12 MONTHS how often have you been around people who were taking each of the following to get high or for kicks?[a] Approx. N =	1982		1987		Change from 1982-1987	
	Stateside (3650)	DoDDS (480)	*Stateside* (3260)	DoDDS (540)	*Stateside*	DoDDS
Marijuana						
% saying not at all	22.1	21.9	29.6	45.3sss	+7.5sss	+23.4sss
% saying often	28.0	30.1	20.6	11.7sss	−7.4sss	−18.4sss
LSD						
% saying not at all	83.9	80.5	87.1	92.5ss	+3.2ss	+12.0sss
% saying often	1.9	1.8	1.8	0.7	−0.1	−1.1
Other psychedelics						
% saying not all	83.2	86.5	90.0	92.6	+6.8sss	+6.1ss
% saying often	2.6	1.8	1.2	0.7	−1.4ss	−1.1
Cocaine						
% saying not at all	65.1	70.4s	65.1	84.5sss	+0.0	+14.1sss
% saying often	6.6	3.6s	5.9	1.3sss	−0.7	−2.3s
Heroin						
% saying not at all	92.9	89.7s	94.2	94.2	+1.3	+4.5ss
% saying often	1.0	1.6	0.9	0.5	−0.1	−1.1
Other narcotics						
% saying not at all	81.5	77.8	85.6	84.0	+4.1ss	+6.2s
% saying often	2.4	2.4	1.7	2.9	−0.7	+0.5
Amphetamines						
% saying not at all	49.8	59.6sss	68.3	76.7sss	+18.5sss	+17.1sss
% saying often	12.3	8.2s	4.5	2.4s	−7.8sss	−5.8sss
Barbiturates						
% saying not at all	74.3	74.1	86.9	89.1	+12.6sss	+15.0sss
% saying often	4.3	3.3	1.5	1.1	−2.8sss	−2.2s
Tranquilizers						
% saying not at all	73.4	67.2ss	81.6	80.1	+8.2sss	+12.9sss
% saying often	3.5	4.9	2.6	1.8	−0.9	−3.1ss

Table 27, Continued

Q. During the last 12 MONTHS hou often have you been around people who were taking each of the following to get high or for kicks?[a]	1982		1987		Change from 1982-1987	
	State-side	DoDDS	*State-side*	DoDDS	*State-side*	DoDDS
Approx. N =	(3650)	(480)	(3260)	(540)		
Alcoholic beverages .						
% saying not at all .	6.0	3.4s	6.1	5.0	+0.1	+1.6
% saying often . . .	59.3	68.7sss	58.7	60.5	−0.6	−8.2ss
Any illicit drug[b] . . .						
% saying not at all .	NA	NA	26.1	37.9sss	NA	NA
% saying often . . .	NA	NA	23.3	14.2sss	NA	NA
Any illicit drug[b] other than marijuana						
% saying not at all .	NA	NA	48.3	60.6sss	NA	NA
% saying often . . .	NA	NA	10.2	5.4sss	NA	NA

NOTES: Significance of difference between the two samples: $s = .05$, $ss = .01$, $sss = .001$. In the pair of columns for each year, the significance test is based on the comparison between DoDDS and Stateside. In the columns showing the 1982–1987 change, the significance test is based on the amount of change within each of these populations. NA indicates data not available.

[a]Answer alternatives were: (1) Not at all, (2) Once or twice, (3) Occasionally, and (4) Often.

[b]These estimates were derived from responses to the questions listed above. "Any illicit drug" includes all drugs listed except alcohol.

Table 28
Reported Availability of Drugs,
DoDDS and Stateside Class of 1987

Q. How difficult do you think it would be for you to get each of the following types of drugs, if you wanted some?	Percent saying drug would be "fairly easy" or "very easy" for them to get[a]							
	Total			DoDDS Region				
	Stateside	DoDDS	DoDDS-*Stateside* Diff.	Atlantic	Germany	Mediterranean	Pacific	Panama
Marijuana	84.8	73.6	−11.2sss	64.9	74.4	80.8	74.2	74.5
LSD	31.4	20.4	−11.0sss	20.0	22.1	21.2	12.5	24.0
Some other psychedelic	25.0	19.6	−5.4s	17.7	20.3	17.6	19.2	20.0
Cocaine	54.2	33.7	−20.5sss	24.0	35.2	41.2	21.5	62.0
Heroin	23.7	24.5	+0.8	28.1	25.8	30.0	15.7	22.0
Some other narcotic (including methadone)	33.0	39.5	+6.5ss	31.3	38.4	41.2	52.5	32.0
Amphetamines	64.5	55.4	−9.1sss	47.9	57.3	50.0	61.5	44.0
Barbiturates	48.2	44.0	−4.2	38.9	42.9	42.3	55.4	38.0
Tranquilizers	48.6	51.1	+2.5	50.0	50.9	53.1	51.6	52.0
Approx. N =	(3260)	(540)		(100)	(220)	(50)	(120)	(50)

NOTE: Significance of difference between the two samples: *s*=.05, *ss* =.01, *sss*=.001.

[a]Answer alternatives were: (1) Probably impossible, (2) Very difficult, (3) Fairly difficult, (4) Fairly easy, and (5) Very easy.

of cocaine does vary greatly among the DoDDS regions ranging from 62% in the Panama region to 22% in the Pacific and 24% in the Atlantic regions. Recall that the proportion of DoDDS seniors in Panama who reported cocaine use in the past month (3.9%) is much larger than the proportion in the Pacific (0.3%) or Atlantic (0.6%) regions.

- **LSD** is perceived as being less easily available in the DoDDS (20%) than stateside (31%). The same is true for **other psychedelics**.

- Nearly a quarter of both the DoDDS (24%) and stateside (25%) seniors think **heroin** would be fairly easy or very easy to get if they wanted some.

Trends in Perceived Availability of Drugs

- The perceived availability of **marijuana** was down slightly among stateside seniors between 1982 and 1987 (from 89% to 85%), and among DoDDS seniors (from 75% to 74%). (See Table 29.) Marijuana prevalence rates decreased among both populations, although the reductions were higher among the DoDDS seniors. Obviously availability cannot account for the differential trends in use which were observed.

- There were reductions in the percentage of both DoDDS (from 62% to 55%) and stateside (from 71% to 65%) seniors who thought they could get **amphetamines** fairly or very easily, although stateside seniors saw the drug as more available in both 1982 and 1987.

- The ease of obtaining **tranquilizers** was greatly reduced among both DoDDS and stateside populations between 1982 and 1987, dropping by more than 10% in the five-year span.

- **Barbiturates** were seen as being easily available by 55% of the stateside sample in 1982 in comparison to 50% of the DoDDS sample. Availability levels decreased by 6% to 7% for both groups between 1982 and 1987.

- Among stateside seniors, **cocaine** became much more widely available, with availability growing from 47% in 1982 to 54% of seniors in 1987. DoDDS seniors reported about the same levels of availability in both 1982 and 1987, although only about a third of them saw cocaine as easily available. The actual use of cocaine decreased among DoDDS seniors during this period, and to a lesser degree among stateside seniors. As with marijuana, a change in availability does not seem to explain the downturn in use.

- **LSD** became somewhat less available to DoDDS seniors (from 26% to 20% between 1982 and 1987), but not for stateside seniors. For the latter group, however, there was a drop in the availability of psychedelics other than LSD (from 31% to 25%). No comparable decline was seen for DoDDS, although the availability of such drugs was, and continues to be, considerably lower in DoDDS than stateside.

Table 29
Trends in Reported Availability of Drugs,
DoDDS and Stateside Classes of 1982 and 1987

Q. How difficult do you think it would be for you to get each of the following types of drugs, if you wanted some?

	Percent saying drug would be "fairly easy" or "very easy" for them to get[a]					
	1982		1987		Change from 1982-1987	
Approx. N =	*Stateside* (3600)	DoDDS (500)	*Stateside* (3260)	DoDDS (540)	*Stateside*	DoDDS
Marijuana	88.5	75.2sss	84.8	73.6sss	−3.7ss	−1.6
LSD	34.2	26.2ss	31.4	20.4sss	−2.8	−5.8s
Some other psychedelic	30.6	19.6sss	25.0	19.6s	−5.6sss	+0.0
Cocaine	47.4	33.1sss	54.2	33.7sss	+6.8sss	+0.6
Heroin	20.8	20.5	23.7	24.5	+2.9s	+4.0
Some other narcotic including methadone	30.4	29.0	33.0	39.5ss	+2.6	+10.5sss
Amphetamines	70.8	62.1sss	64.5	55.4sss	−6.3sss	−6.7s
Barbiturates	55.2	49.9s	48.2	44.0	−7.0sss	−5.9
Tranquilizers	58.9	62.8	48.6	51.1	−10.3sss	−11.7sss

NOTES: Significance of difference between the two samples: $s = .05$, $ss = .01$, $sss = .001$. In the pair of columns for each year, the significance test is based on the comparison between DoDDS and Stateside. In the columns showing the 1982-1987 change, the significance test is based on the amount of change within each of these populations.

[a]Answer alternatives were: (1) Probably impossible, (2) Very difficult, (3) Fairly difficult, (4) Fairly easy, and (5) Very easy.

- Between 1982 and 1987, there was a sharp increase in DoDDS in the availability of **narcotics other than heroin** (from 29% to 40%), while there was little change stateside (from 30% to 33%).

PERCEIVED RISKS OF APPREHENSION AND PUNISHMENT FOR DRUG USE

- We included several items in the questionnaires given to DoDDS seniors about the extent to which both military and local civilian authorities attempt to catch drug users, and about the severity of the consequences of being caught with illicit drugs. Table 30 presents these results. It should be stressed that these are the students' perceptions of the realities, not direct measures of them.

- As Table 30 shows, about a quarter of DoDDS seniors feel that the U.S. military authorities are **very vigorous** in their attempts to catch young people using illicit drugs; and only about half that many feel the same about the relevant local authorities. DoDDS seniors also report that they were much more likely to receive **severe consequences** at the hands of the U.S. military authorities than local authorities for possession of a small amount of marijuana, amphetamines or cocaine.

- There are some differences within the five regions of the DoDDS in terms of seniors' perceived risk and consequences associated with apprehension for possession of drugs at the hands of local authorities. In the Pacific region 19% see local authorities as vigorous in their attempts to catch young people using illicit drugs vs. 10% to 12% in the other four regions. It should also be noted that the proportion of DoDDS seniors reporting "severe" consequences for being caught by local authorities are greatest in the Pacific region.

- Seniors in all regions report that U.S. military authorities are more vigorous in their attempts to catch youthful drug offenders than local authorities. However, seniors in the Germany region perceive that military authorities are slightly less vigorous than in other regions (20%), while seniors in the Mediterranean (28%) and Pacific (29%) regions see military authorities as posing more of a threat in terms of apprehension of young people for using illicit drugs.

- On the average, military authorities are seen as imposing more severe consequences for possession of **cocaine** (69% feel the consequences would be severe) than **amphetamines** (46%) or **marijuana** (44%). A similar distinction occurs for expected severe consequences of getting caught by local civilian authorities (63% for cocaine, and 33% for amphetamines or marijuana).

- There is one exception to the general finding that DoDDS seniors believe that the consequences of getting caught with these drugs are more likely to be severe if one is caught by military rather than by local authorities. In the Pacific region, approximately equal numbers perceive severe consequences whether apprehended by local or military authorities for possession of marijuana and cocaine; but DoDDS seniors in the Pacific region see military authorities as imposing more severe consequences than local authorities for possession of amphetamines (50% vs. 42%).

Trends in Perceived Risk of Apprehension and Punishment for Drug Use

- Overall, there was a significant decrease among DoDDS seniors in their perception that local authorities were very vigorous in their attempts to catch young people using drugs, but, there was no significant overall change in their views about the vigor with which military authorities pursue young drug users.

- There was also an overall decrease in the reported severity of consequences for possession of small amounts of illicit drugs by local authorities, but there was a large increase in the proportion who thought there would be severe consequences for drug possession if apprehended by U.S. military authorities.

- Within the five DoDDS regions, different patterns emerged in terms of perceived risks and consequences of apprehension. For example, while seniors in the Germany, Pacific and Panama regions perceived large drops in the vigor with which local authorities try to catch youthful drug offenders between 1982 and 1987, the drops were smaller in the Atlantic and Mediterranean regions.

- While among DoDDS seniors overall, the vigor of military authorities in trying to catch youthful drug offenders remained unchanged between 1982 and 1987; there was an increase in the Mediterranean (21% in 1982 and 28% in 1987) and Panama (from 18% to 27%) which was offset by some modest (nonsignificant) decreases in the Atlantic and Pacific regions.

- Seniors in the Mediterranean, Pacific, and Panama regions reported that local authorities were much less likely to impose severe consequences for possession of **marijuana, amphetamines** and **cocaine** in 1987 than was true in 1982. In fact, all regions showed some decline in perceived consequences from local authorities.

- At the same time, however, all regions reported large increases in the perceived severity of consequences for getting caught in possession of marijuana by U.S. military authorities. There were similar, though slightly smaller, increases perceived in all regions for cocaine possession. Perceived severity of consequences for possession of amphetamines also increased in all regions, though to a lesser extent than for marijuana or cocaine.

Table 30
Trends in Perceived Risk of Apprehension and Consequences of Apprehension, DoDDS Classes of 1982 and 1987

	DoDDS Total			DoDDS Region											
				Atlantic			Germany			Mediterranean			Pacific			Panama		
Approx. N =	1982 (2400)	1987 (2700)	'82–'87 change	1982 (400)	1987 (490)	'82–'87 change	1982 (950)	1987 (1100)	'82–'87 change	1982 (250)	1987 (250)	'82–'87 change	1982 (450)	1987 (590)	'82–'87 change	1982 (350)	1987 (260)	'82–'87 change
Proportion reporting that local authorities are very vigorous[a] in their attempts to catch young people using illicit drugs	21.2	12.1	−9.1sss	13.8	11.0	−2.8	19.4	10.8	−8.6sss	15.1	11.5	−3.6	36.2	18.9	−17.3sss	24.7	10.4	−14.3sss
Proportion reporting that U.S. military authorities on the installation are very vigorous[a] in their attempts to catch young people using illicit drugs	22.4	23.4	+1.0	30.5	25.7	−4.8	18.9	20.3	+1.4	20.6	28.4	+7.8s	33.6	29.4	−4.2	17.6	27.2	+9.6ss
Proportion reporting severe[b] consequences for getting caught by local authorities in possession of a small amount of:																		
marijuana	40.1	32.9	−7.2sss	35.4	30.5	−4.9	33.2	29.6	−3.6	42.2	28.0	−14.2ss	63.2	51.0	−12.2sss	51.1	29.0	−22.1sss
amphetamines	42.8	32.6	−10.2sss	43.6	33.2	−10.4ss	37.9	30.5	−7.4sss	42.7	29.8	−12.9ss	58.9	42.4	−16.5sss	48.1	30.0	−18.1sss
cocaine	67.3	62.9	−4.4ss	67.5	65.1	−2.4	63.8	61.7	−2.1	67.7	55.0	−12.7ss	75.1	69.7	−5.4	76.4	61.2	−15.2sss
Proportion reporting severe[b] consequences for getting caught by U.S. military authorities in possession of a small amount of:																		
marijuana	29.8	43.6	+13.8sss	40.9	55.2	+14.3sss	24.3	38.2	+13.9sss	32.8	51.4	+18.6sss	37.4	48.7	+11.3sss	34.3	48.3	+14.0sss
amphetamines	36.4	45.5	+9.1sss	50.0	57.4	+7.4s	30.2	41.2	+11.0sss	39.5	45.5	+6.0	44.8	50.3	+5.5	41.1	48.4	+7.3
cocaine	57.8	68.7	+11.1sss	69.5	77.9	+8.4ss	52.5	65.4	+12.9sss	57.8	72.9	+15.1sss	63.3	68.8	+5.5	64.0	74.9	+10.9ss

[a] Answer alternatives were: (1) Not at all vigorous, (2) Slightly vigorous, (3) Somewhat vigorous, (4) Fairly vigorous, (5) Very Vigorous, and (8) Don't know.
[b] Answer alternatives were: (1) No consequences, (2) Mild, (3) Moderate, (4) Severe, and (8) Don't Know.

APPENDIX A

ESTIMATES OF SAMPLING VARIANCE

Stateside Samples

In most surveys, a relatively small sample is drawn from a much larger population. If the sample is drawn such that each population element has an equal likelihood of being selected, then a simple random sample (SRS) is the result. Estimation of the sampling variance of any resulting statistic is a straight-forward procedure: given a simple random sample of size n, the variance of an observed prevalence is generally estimated by
$P \times (1-P)/n$. In the Monitoring the Future's stateside samples of high school seniors, the samples are stratified multi-stage clustered samples, not SRS, and adjustments therefore have to be made to take account of the complex design. These adjustments can be accomplished by a simple modification of the SRS procedure; specifically, the *actual* obtained number of cases (n) is adjusted by a factor called the "design effect," and the resulting *effective* number of cases n' is used in the normal SRS formulas.

In principle, every different statistic derived from a complex sample design can have its own design effect, and different statistics in the same sample can have quite different design effects. Thus, for example, the design effect for an estimate of percent using marijuana during the past year can be different than the design effect for the percent using alcohol during the past year or for the percent using marijuana during the past 30 days. In practice, however, design effects are usually averaged across a number of statistics. Often, a single design effect is applied to all statistics. In the Monitoring the Future study, extensive explorations revealed systematic differences that led us to employ several different average design effects; these various design effects varied primarily according to the particular drug measure in question, and on how many questionnaire forms the measure appeared. In all confidence intervals and significance tests reported here, appropriate design effects have been applied to produce effective n' for the data from stateside seniors.

DoDDS Samples

The DoDDS surveys are based on a very different survey design than a simple random sample or the Stateside survey design. In four of the five regions, no sampling was done; the surveyed respondents are essentially a complete population--the "universe" of all seniors present on the day of administration. In the other region, Germany, a very high proportion (half) of the schools were sampled, after stratification on number of seniors, branch of service hosting the installation, and the size of the city in which the installation was located. There are a number of alternative ways to estimate the sampling variance for data

obtained in such a survey. The approach we have used in all data for this report is to treat each prevalence estimate as if it were based on a simple random sample; we used the following reasoning in adopting this approach.

Core data. Consider first the "core" data, measures included in all five questionnaire forms. If we used the notion of a complete population survey in the four regions with no sampling, we would estimate a sampling variance of zero in those regions. (This ignores matters of non-response at both the questionnaire and item levels; correcting for non-response would add some very small sampling variance.) In the Germany region, sampled at 50%, the estimated variance would be 50% smaller than an SRS estimate. (Based on finite population correction; see Kalton, G. "Introduction to survey sampling" Sage: 1983, p. 13.) However, this estimate ignores the clustering by schools feature of the design. The effect of clustering is generally to increase sampling variance relative to a SRS. The two factors--sampling a high proportion and clustering--thus act in different directions, and may well very nearly cancel each other out. So SRS estimates may not be bad estimates for the Germany region, and they are certainly the simplest to use.

For the DoDDS schools as a whole, the SRS procedure is conservative in the sense that it overestimates the sampling variance compared to the "universe" approach. However, because the total number of obtained questionnaires is large, about 2,700, the SRS variances are quite small. A prevalence level of 50% (which is the proportion that has the largest absolute sampling error) would have a SRS sampling variance of only .01%, which would yield of 95% confidence interval of plus or minus 2% around 50%, or an interval of 48% to 52%. Although the "universe" approach would yield a smaller variance, we believe that the SRS approach provides a very reasonable, though more conservative, estimate. Very small differences between DoDDS seniors and stateside seniors are still "statistically" significant with this approach. For example, lifetime heroin prevalence rates of 1.2% and 2.4% for the two samples, respectively, would be significantly different at the .001 level of confidence.

Non-core data. Most of the non-drug use measures, such as attitudes and beliefs about drugs, are included in one questionnaire form. In these cases, we have a random sample of only 20% of the population in the "universe" regions and 10% of the DoDDS population in Germany, and thus the simple random sample procedure is less conservative here. Adjusting for the relatively high proportion of the population sampled would decrease the sampling variance, but adjusting for the clustering of the sample would increase it.

In sum, the straightforward simple random sample approach seems well suited for all of the DoDDS measures. On the drug use measures, it is, if anything, a bit conservative.

APPENDIX B

SELF-REPORTED WILLINGNESS TO BE HONEST ABOUT DRUG USE

Some years ago, when the first downturn in marijuana began to be reported from the Monitoring the Future study, the comment was occasionally heard that it was the willingness to admit use on a survey that was shifting, not the use itself. This interpretation did not fit very well with other findings being reported, such as amphetamine and cocaine use rising, and alcohol and narcotics other than heroin remaining stable; nor did it fit very well with the fact that trends in reported friends' use and in exposure to use paralleled closely the trends in self-reported use by the respondents themselves. (Presumably they would have considerably less reason to conceal use by unnamed friends than to conceal their own use.) Nevertheless, we thought it would be interesting to begin to monitor self-reported willingness to be honest on drug usage questions, since there would appear to be very little reason to conceal such willingness itself. We designed three parallel questions, dealing with illicit drugs having different degrees of "illicitness"--marijuana, amphetamines, and heroin.

These questions were administered at the end of a single questionnaire form to both DoDDS and stateside seniors in 1982 and in 1987. The crackdown on drug use among servicemen in the military during that interval raises the very real question of whether "improvements" in the self-reported drug use statistics are real or simply an artifact resulting from an increased tendency to conceal such use to avoid individual and/or collective risks of retribution which might be perceived to exist.

Table 31 provides the results on these questions about willingness to be honest for both the DoDDS and stateside populations in 1982 and 1987. The results are extremely encouraging. It may be seen that in 1987 quite low and roughly equivalent proportions of seniors in both populations say they think they would not answer honestly or they are not sure how they would answer (12.1% for DoDDS and 13.5% stateside for marijuana, for example, in 1987). While there is an increase in projected concealment as the "illicitness" of the substance increases, even for heroin the great majority say they would (or did) answer honestly (79% for DoDDS vs. 81% stateside in 1987).

Most important for the purposes of this report, however, is the fact that in the DoDDS population, there is no evidence of any shift toward an increasing tendency to conceal drug use on the survey. In fact the largest change, which occurs for heroin, goes in the opposite direction. Thus, we have still further evidence to suggest that the downturn in drug use reported for the period 1982 to 1987 is, in fact, real.

Table 31
Trends in Willingness to be Honest in Reporting Drug Use Questions
DoDDS and Stateside Classes of 1982 and 1987

	1982		1987		Change from 1982–1987	
	State-side	DoDDS	*State-side*	DoDDS	*State-side*	DoDDS
Q. If you had ever used marijuana, do you think you would have said so in this questionnaire? . .						
No	5.1	6.0	6.6	5.5	+1.5	−0.5
Not sure	5.6	6.5	6.9	6.6	+1.3	+0.1
Yes	54.1	50.2	56.0	55.8	+1.9	+5.6
I did say so	35.2	37.2	30.4	32.1	−4.8	−5.1
Q. If you had ever used amphetamines, do you think you would have said so in this questionnaire? . .						
No	6.4	8.1	8.0	9.0	+1.6	+0.9
Not sure	7.6	9.9	7.9	8.9	+0.3	−1.0
Yes	67.2	62.4	70.6	69.4	−4.8	+7.0
I did say so	18.8	19.6	13.5	12.7	+0.8	−4.9
Q. If you had ever used heroin, do you think you would have said so in this questionnaire? . .						
No	8.9	12.0	9.6	10.3	+0.7	+1.7
Not sure	10.1	12.6	9.3	10.6	−0.8	+2.0
Yes	73.1	66.6	74.1	71.9	+1.0	+5.3
I did say so	7.9	8.8	7.1	7.1	−0.8	−1.7
Approx. N	(2980)	(480)	(2700)	(540)		

NOTE: Significance of difference between the two samples: s=.05, ss =.01, sss=.001.